

General Practice Series

THE MEDICAL MANAGEMENT OF PEPTIC ULCER

LOUIS MIRVISH, M.B., CH.B. (CAPE TOWN), M.R.C.P. (LOND.)

Senior Physician, Groote Schuur Hospital, Cape Town

We still do not know why a portion of an apparently healthy mucosa of the stomach or duodenum becomes liable to digestion by its own juices. In the treatment of peptic ulcer our goal is still the reduction of the acidity of the gastric juice, so that peptic activity is inhibited or markedly reduced, and healing of the ulcer can take place.

The advent of suitable insoluble alkalis has been a great boon in the treatment of peptic ulcer. The insoluble alkalis do not produce undesirable side-effects, and when taken in adequate doses, and at very frequent intervals, they neutralize the acidity of the gastric juice sufficiently for healing of the ulcer to take place. Thanks to the introduction of the insoluble alkalis, the dietetic treatment of peptic ulcer has lost much of its austerity. The management of the ulcer patient has become simplified and many patients who in previous years were put to bed for many weeks can now carry on their vocations while they are undergoing treatment.

DIET

It is not necessary to make milk the basis of the dietetic treatment of peptic ulcer. The diet can be ample, varied and palatable. Tender meats, poultry, fish, soft raw fruit and soft boiled vegetables (not stringy) are allowed in addition to the bland foods which used to be given in the past (milk, cream, cheese, butter, bread, biscuits, fine cereals, stewed fruit and puddings). Condiments, fried foods, raw salads, fibrous fruits and vegetables are avoided.

There is no need for a 'stepping up' scheme whereby new items of foods are introduced at intervals. In most cases the full diet is given from the start. Only in cases with severe pain or gastric stasis, or immediately after a haemorrhage, is it necessary to exclude vegetables and raw fruits and to prepare the meat in minced form. Such limitations of diet need rarely last for more than 1-2 weeks.

Amount and frequency of meals. There need be no restrictions on the amount of food taken at each meal. Where it is desirable that the patient should gain weight, more food is given.

There is no necessity for very frequent feeds. The patient should have breakfast, lunch and supper at the usual times and, in addition, he should have tea or a milk drink and a snack in the mid-morning and afternoon and at bedtime.

Alcohol and smoking. Alcohol is not allowed in any form. Smoking is usually harmful and should be omitted or strictly curtailed. If, to relieve nervous tension, a few cigarettes are allowed, they should be smoked only after meals or teas.

DRUG TREATMENT

Alkalis. Theoretically, the ideal method of neutralizing the acidity of the gastric juice as rapidly as it is secreted is by some method of continuous administration of alkalis. Such a result can be obtained by the continuous intragastric drip of milk and alkalis. This is, however, a difficult procedure; it is cumbersome and unpleasant, it involves the patient in treatment in bed and, moreover, it has its own limitations. The frequent administration of insoluble alkalis achieves nearly the same purpose and, although it does not approach the ideal, yet in practice it approximates closely to the method of continuous neutralization. The results obtained by frequent administration of alkalis are excellent. It is, however, essential that the alkalis should be taken very frequently. A dose of one of the insoluble alkalis should be given every hour of the day and also if awake during the night. (The patient takes 16-18 doses of alkalis a day.) If pain is experienced, then extra alkali is taken immediately; the dose of alkali should then be 2-4 times the usual dose.

The two most suitable alkalis are (1) aluminium hydroxide, preferably as a gel in liquid form, and (2) magnesium trisilicate. When taken in large amounts, aluminium hydroxide is constipating and magnesium trisilicate may produce diarrhoea. More doses of one or the other can be taken during the day, depending on the state of the bowels. In the average case it has been found that the administration of alternate doses of the above two alkalis is a suitable arrangement.

Patients who are at work usually find it convenient to take the alkaline preparations in tablet form. The tablets are chewed and swallowed every hour. There are a variety of palatable tablets on the market which contain aluminium hydroxide and magnesium trisilicate.

Sedatives. The use of sedatives is most important in the treatment of patients with duodenal ulcers and is less important in gastric ulcers. Sufficient sedatives should be given to induce complete relaxation; the patient undergoing treatment at bed-rest should lose his alertness to the point of not even being interested in reading. The average patient treated at bed-rest requires phenobarbitone, gr. $\frac{1}{2}$ *t.d.s.* and gr. 1 at bedtime. In some cases, especially during the first few days, the night dose may have to be increased to produce adequate relaxation and sleep.

Patients who are ambulatory and who have to carry on

with their work can usually take phenobarbitone, gr. $\frac{1}{4}$ 3-4 times a day. If the patient feels unduly tired in the forenoon, then the morning dose can be omitted.

Belladonna inhibits the nervous phase of gastric secretion. A dose of 10 min. of belladonna tincture 3-4 times a day is well tolerated by most patients. It can be combined with the sedative in a mixture or a tablet.

The place of the new anticholinergic drugs in the treatment of peptic ulcer is still very much disputed. Some authorities have great faith in anticholinergic drugs and employ them enthusiastically, either together with alkalis or even to the exclusion of all alkalis. Others are not convinced of their superior efficacy; thus, Avery Jones¹ states: 'It is doubtful if the many anticholinergic drugs are of any more value than atropine.' In my own practice, I very rarely employ anticholinergic drugs in the treatment of peptic ulcer, since I have found that the administration of hourly alkalis, together with sedatives in adequate amounts and belladonna, leads to excellent results in most cases. On the regime described here most patients with peptic ulcer lose their symptoms within 3-4 days and they show healing at the usual times. I have found that the rapid remission of symptoms is such a constant feature with this form of treatment, that if a patient still complains after 3-4 days, then a search is made for some complicating factor.

Duration of Treatment

Bed-rest treatment is usually carried out for 3-4 weeks. Even when the ulcer has not completely healed by that time, it is generally not advisable to prolong bed-rest for more than a month because patients become restless and fidgety and start worrying—which itself may interfere with the therapeutic effort. Any further treatment can be carried out while the patient is ambulatory.

In ambulatory cases, the treatment is carried out for 1-2 months and consists of the diet already mentioned, stopping smoking and drinking (alcohol), and the administration of hourly alkalis, adequate sedatives, and belladonna. During the time of treatment work should be reduced to a minimum, rest increased to a maximum, and adequate hours of sleep ensured.

After-treatment

It is necessary to ensure, not only that the ulcer heals, but that it will not recur. The treatment does not stop after the few weeks rest in bed or the month or two on ambulatory treatment. In the after-treatment of ulcer, the following precautions have to be taken:

1. *Diet.* After a month or two on full treatment, the diet may be increased to include salads, fried foods and most ordinary foods except condiments and tough, indigestible foods. The patient should be instructed to eat regularly and not omit meals, and he should be very moderate in the use of alcohol and tobacco.

2. *Alkalis.* Hourly alkalis should be taken for at least a month, then the alkalis can be taken at 2-hourly intervals for a total of 3-6 months. At the end of that time alkalis may be discontinued, but in long-standing cases it is often advisable to prescribe a dose of alkalis 3 times a day after meals and a double dose at bedtime for long periods—if necessary for years.

3. *Sedation and belladonna* should be prescribed in adequate doses for 3-6 months. At the end of that time it may be

advisable to prescribe a sedative, such as phenobarbitone, gr. $\frac{1}{4}$ 3 times a day, or gr. $\frac{1}{2}$ at bedtime for long periods.

4. *Mental rest.* The doctor should utilize his period of contact with the patient to embark on a scheme of re-education of the patient. A radical change of the 'ulcer personality' would be the best insurance against ulcer recurrence. This is highly desirable, but in practice is not often achieved. With many patients, neither suggestion nor the superficial psychotherapy which the average physician is able to employ, is of much value in changing the attitude of the ulcer patient.

However, many patients can be persuaded to take certain practical steps, which, while not radically altering the 'ulcer personality', may yet result in the patient leading a life which makes him less tense and less fatigued, and therefore less liable to recurrence of his ulcer.

SPECIAL GUIDANCE

An ulcer patient should be given special guidance about his work, rest, sleep and holidays.

Work. Overstrain and overactivity are frequently encountered in patients with duodenal ulcer. The patient should be induced to cut down his work and responsibilities: overtime, evening work, week-end work and examinations should be stopped and the patient should be relieved of as much responsibility as possible.

Rest. The patient should take long periods for his meals. If possible he should lie down after lunch and on coming home in the evening. He should go to bed early once or twice a week, and stay in bed half a day during the week-end.

Sleep. Adequate sleep is important. It is often advisable to take a sedative at bedtime to ensure a long and restful period of sleep (about 8 hours).

Holidays. The patient should be encouraged to take frequent restful holidays.

Bed-rest and Ambulatory Treatment

The decision whether a patient can be adequately treated while he is ambulant or whether he has to be put to bed, depends on a number of factors. Most gastric-ulcer patients require bed-rest. In patients with duodenal ulcers the decision will depend upon the severity of the lesion. Patients with severe pain, especially those with frequent night pains and pain in the back, and patients who on X-ray investigation show the presence of a large ulcer, usually have to be put to bed. Recently, however, the tendency has been to treat fewer patients with bed-rest than formerly, and this is largely owing to the employment of frequent doses of the insoluble alkalis. In many cases one can institute a form of compromise treatment: The patient is allowed to carry on with his work, which is reduced to a minimum—all overtime and all avoidable work being stopped. The patient goes to bed when he comes home from work and stays in bed for the week-ends. This form of treatment may not meet the ideal requirements in some cases, but is of value in those patients who for some reason or another cannot stay in bed for the few weeks of treatment.

Differences in the Treatment of Gastric Ulcers and Duodenal Ulcers

Although gastric and duodenal ulcers have been considered together, there is a difference of emphasis in the treatment of the two conditions. Patients with gastric ulcer nearly always require a period of bed-rest for their treatment to be effective, dietary factors are more important in the treatment of this

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condition, and it is advisable to omit coarse foods and alcohol and smoking for a longer period. In patients with duodenal ulcer, on the other hand, the indications for sedatives are much greater because these patients are often tense, they tend to worry and cannot relax easily. Physical factors such as diet are not as important as attention to the nervous element and to the employment of measures to combat gastric acidity.

The Treatment of Ulcer Patients who also Suffer from a Spastic Colon

A certain number of ulcer patients also have symptoms of the spastic-colon syndrome, such as lower abdominal pain, flatulence, constipation and diarrhoea. The treatment of such patients requires special consideration, since they usually do not tolerate large amounts of milk nor the administration of magnesium salts. In the dietetic treatment of such patients the intake of milk is reduced to a minimum and fried foods are avoided even at a later stage. The only alkali given is aluminium hydroxide, but in order to avoid its constipating effect, liquid paraffin or other mild purgatives are given. In many cases it is advisable to omit purgatives entirely and to give enemas every alternate day during the period when large doses of aluminium hydroxide are taken.

Complications of Peptic Ulcer

The treatment of complications of peptic ulcer is a subject

which cannot be considered fully here. Perforation is an indication for immediate operation. Haemorrhage is an acute emergency which requires immediate and full blood transfusion and special treatment. Pyloric obstruction and hour-glass deformity nearly always necessitate operation, but it is advisable to treat the patient adequately before operation is undertaken.

Surgical Treatment

The operation of partial gastrectomy, which is the usual operation performed both for gastric and duodenal ulcers, has become a common and standardized procedure. With the availability of antibiotics, of the new anaesthetics, and the improved pre- and post-operative control of patients, the operation has become a routine and safe procedure. Most patients with gastric ulcer require surgery, but recent cases and those with small ulcers usually do very well on medical treatment. In patients with duodenal ulcers operation is indicated in cases of very long standing, after severe and repeated haemorrhages, in those who have undergone adequate medical therapy without relief, and in those who have developed complications.

REFERENCE

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TOURAINÉ'S SYNDROME (ELASTORRHEDIA) IN A BANTU SUFFERING FROM SCHIZOPHRENIA

M. B. MERLIN, M.B., B.Ch., D.P.M. (RAND), *Komani Hospital, Queenstown*

Touraine's syndrome or *l'élastorrhéxie systématisée* is a rare condition which affects the elastic tissue of many of the organs of the body. It is a degenerative and familial condition and the nature of the pathological changes has given rise to such names as elastosis dysplastica (Parkes Weber) and pseudoxanthoma elasticum (Darier). Because of the widely spread pathological changes a large number of signs and symptoms may occur. These may be conveniently divided into several groups, as follows:

1. Eye changes: angioid streaks in the fundus, retinal haemorrhages, and degenerative changes in the macula, colloid bodies and Bruch's membrane.
2. Skin changes: loss of elasticity and the presence of yellow papules in the skin.
3. Cardiovascular involvement: aneurysms, early arteriosclerosis, or calcification and hypertension.
4. Gastro-intestinal involvement: haematemesis.
5. Neurological symptoms: epilepsy, headaches and vertigo.
6. Psychiatric symptoms: mental instability and depression.
7. Pulmonary involvement: idiopathic pulmonary siderosis with minimal clinical signs but with mottled shadows in the hilar area and diffuse speckling in the lung fields on X-ray.
8. Associated skeletal disease: Paget's disease of bone.

There appears to be no report in the literature of this condition occurring in a South African Bantu nor does there appear to be any record of its occurrence together with schizophrenia. The following case is therefore recorded:

CASE REPORT

E.L. was admitted to Tower Hospital, Fort Beaufort on 10 December 1938. She was single, a Morolong (Bantu) and 30 years of

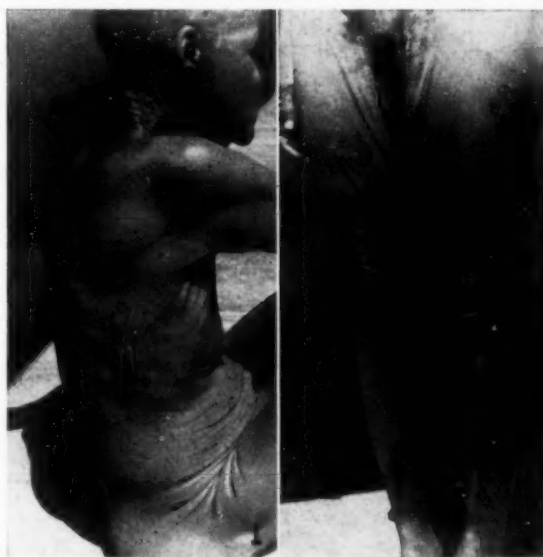


Fig. 1. Note (1) 'plucked chicken' appearance of the skin of the neck, due to the yellow papules and (2) the large lax folds of the skin of the axillae, abdomen and inguinal regions (mainly the flexor surfaces are involved, but in this case the skin at the back of the neck and elbows is also affected.)

Fig. 2. Note (1) the skin of the thighs, resembling in appearance draped curtaining, (2) the depigmented yellowish rough areas seen best near the inguinal region, and (3) the symmetrical nature of the skin changes.

age. This was her first attack of mental disorder and she had been mentally ill for 4 years before admission.

Family history. She was the fourth of 8 children who survived to adulthood; 3 siblings died in infancy and 1 was stillborn. One sister died of an unknown cause in adulthood, and another died of a 'weak chest'. A third sister is a tuberculosis suspect. The submental skin of yet another sister is 'like that of a plucked chicken and the remainder of her skin is not very smooth'. Her mother suffered from hypertension, had a stroke and subsequently died. After her death the patient's father remarried and had 4 more children. There is no other family history of mental disorder, epilepsy, cardiovascular disease or visual difficulty.

Physical examination and progress. On admission the skin of the patient was noticed to be dry in parts ('pellagra'), an apical systolic murmur was heard and a tremor of the hands was observed. Her physical health remained well until June 1953 (14½ years), when she suddenly collapsed and a few hours later vomited roundworms. In 1955 my attention was drawn to a progressive change in her skin. This is well illustrated by the photographs in Figs. 1 and 2.

In May 1956 the following abnormal physical signs were found: Blood pressure 200/140 mm. Hg, an enlarged heart, a loud pre-cordial systolic murmur, and accentuated second pulmonic sound,

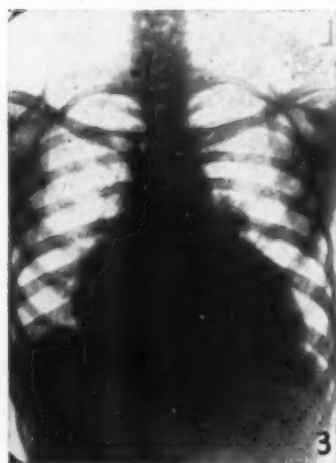


Fig. 3. X-ray of the chest showing cardiomegaly and hilar and perihilar densities.

total number of 6,000 leucocytes. On lumbar puncture the pressure was normal and analysis of the cerebrospinal fluid showed no abnormality.

On 12 December 1956 the patient collapsed, complained of abdominal pain, and vomited bile-stained fluid. She was pale and cold and the blood pressure was 150/100 mm. Hg. A resonant tender mass was found in the left hypochondrium, the palpation of which caused the patient to cough. It extended from the right costal margin to below the left costal margin and to within an inch of the umbilicus. Her pulse waxed and waned and her breathing

varied in rate, rhythm and depth. She recovered slowly from this episode and the 'mass' disappeared. It was diagnosed as an acute dilatation of the stomach. On 11 January 1957 she again collapsed and was found to be in congestive cardiac failure. Despite treatment her condition steadily deteriorated and she died on 5 September 1957.

Psychiatric examination and progress. On admission the patient was withdrawn and apathetic. She was visually and aurally hallucinated and expressed delusions of persecution. Her conversation was apt to be rambling and disconnected. She became steadily more withdrawn, apathetic and inaccessible. At times she was cataleptic. Five years after admission she was resistive and abusive when approached. Five years later (1948) she was reported to alternate between phases of catatonic excitement and semi-stupor. At interviews only very brief replies could be obtained from her because she was completely preoccupied with hallucinatory experiences. She began to exhibit echopraxia, and she performed bizarre movements and adopted abnormal stances. Her mental condition steadily deteriorated and in the latter years of her life she muttered to herself all day long, displaying no interest or response either to her illness or her environment.

In January 1957 a skin biopsy was taken from the right axilla but the specimen was unfortunately lost in transit to the laboratory and another could not be obtained. A post-mortem examination was not possible.

DISCUSSION

Etzine and Ovedoff¹ refer to the large variety of signs and symptoms that may occur in Touraine's syndrome. To this may now be added the occurrence of acute dilatation of the stomach.

The problem raised by this patient's mental disorder is an interesting one. Generalized elastorrhexia may affect the cerebral blood vessels, giving rise to psychiatric signs and symptoms included among which must be a schizophreniform picture, since this picture is known to occur in organic disease of the brain, e.g. cerebral tumour, traumatic psychosis and general paralysis of the insane. While it cannot be clearly excluded as the aetiological factor in this patient's mental illness, the long and classic course of the illness in the absence of other signs of organic brain disease make any diagnosis other than that of true schizophrenia or dementia praecox unlikely.

SUMMARY

A case of Touraine's syndrome in a Bantu female suffering from schizophrenia is reported. The following features are illustrated: (1) positive family history, (2) skin changes, (3) cardiac and pulmonary pathology, (4) ocular pathology, (5) gastric symptoms, (6) mental disorder.

My sincere thanks are due to the Rev. C. H. Mariman of Potchefstroom for investigating the family history. I wish to thank Dr. L. R. Brumberg, Tower Hospital, Fort Beaufort for his interest and Dr. B. P. Pienaar, Commissioner for Mental Hygiene for permission to publish.

REFERENCE

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SLIDING SCALE OF SUBSCRIPTIONS

The attention of members of the Medical Association of South Africa is drawn to the fact that the sliding scale of subscriptions referred to in the Editorials of 9 and 16 May (*Journal*, 33, 393 and 414) applies to the contributions of members to the Association's Head Office and not to the contributions to Branches. The date of implementation of the new subscription scales will be 1 January 1960, except for the provision of a differential scale of subscriptions for married members. In altering the scale for married members a Bye-law of the Association has to be changed and this cannot take place before the meeting of Federal Council in March or April 1960.

WISSELSKAAL VAN LEDEGELDE

Die aandaag van lede van die Mediese Vereniging van Suid-Afrika word daarop gevestig dat die wisselskaal van ledegelde waarna ons Redaksionele artikels van 9 en 16 Mei (*Tydskrif*, 33, 393 en 414) verwys het, slegs betrekking het op die bydraes van lede tot die Hoofkantoor van die Vereniging, en nie op die bydraes aan Takke nie. Verder moet daarop gewys word dat hierdie skale eers van krag sal word op 1 Januarie 1960, behalwe in die gevalle van getroude lede. Om die skaal van ledegelde vir getroude lede te verander, moet 'n Verordening van die Vereniging gewysig word, en dit kan nie gebeur voordat die Federale Raad in Maart of April 1960 ontmoet nie.

AN ORAL ANTIBIOTIC FOR THE TREATMENT OF RINGWORM

The ringworm infections are among the commonest skin diseases encountered in general and in dermatological practice. Most cases heal fairly rapidly, but some are recalcitrant and a few virtually incurable with the remedies hitherto available. The trichophyta, microspora and epidermophyta which cause ringworm in man live and multiply in the keratin of the epidermis, and sometimes in that of the nails and hair, and nourish themselves therefrom by virtue of their possession of a keratolytic enzyme. The duration of a ringworm infection is indirectly proportionate to the amount of inflammatory reaction that it arouses and is relatively little influenced by topical treatment because no satisfactory keratolytic and fungicidal agent has yet been developed. Infections by zoophilic fungi are usually inflammatory and relatively short-lived while anthropophilic fungi cause little reaction and are often chronic and sometimes completely intractable, the fungi behaving as saprophytes rather than as parasites and living a restful and safe existence behind the keratin barrier. Chronic ringworm infections may not be dangerous but they cause distressing and ugly lesions.

It was predicted that the ideal fungicide would be one which, administered internally, would endow the cells destined to produce keratin with the power to resist fungi, this power persisting as they become keratinized.¹ Preliminary studies indicate that griseofulvin may be just such a fungicide.

Griseofulvin, which was isolated by Oxford, Raistrick and Simonet² in 1939, as a metabolic product of *Penicillium griseofulvum* Dierckx, was first thought to be of only academic interest, but later work showed that it was active against a wide range of fungal pathogens affecting plants, and a method of large-scale production was developed with a view to its use in horticulture. Finally, it was found that griseofulvin was active *in vitro* against the ringworm fungi and that, given by mouth, it controlled certain trichophyton and microsporum infections in laboratory and domestic animals. The antibiotic was released for clinical trial in humans after experiments had shown that laboratory animals tolerated relatively large doses over long periods without ill effects.

The first reports by Williams *et al.*³ from England, and Blank and Roth⁴ from America on the treatment of a number of notoriously intractable kinds of ringworm describe

spectacular results. *T. rubrum* infections of the skin and nails, which are at best ameliorated by standard methods, respond in an astonishingly short time; skin lesions often begin to improve in a few days and healthy-looking nail appears within a few weeks of starting griseofulvin treatment. Scalp and hair infections caused by a variety of fungal infections are equally responsive. Griseofulvin appears to be as effective in infections that have been present for decades as in the most recent cases.

These observations have been confirmed by the treatment of a small series of patients suffering from chronic ringworm infections.* In one case of *T. rubrum* infection of seventeen years' duration psoriasiform lesions of the skin began to subside within a few days and had disappeared three weeks from the start of treatment, at which time normal-looking nails were growing. The hair in a case of black-dot scalp ringworm due to *T. violaceum* infection began to grow within three weeks and showed no microscopical evidence of infection at six weeks. Other trichophyton and microsporum infections are responding equally well.

Both clinical and experimental observations indicate that all the keratolytic ringworm fungi will prove susceptible to griseofulvin, but that other fungal pathogens affecting man are unlikely to be affected. Other antifungal antibiotics such as nystatin (Mycostatin) and amphotericin B (Fungi-zone) are, however, already proving effective in different ranges and further developments are expected.

Griseofulvin is administered orally and appears to cause few toxic reactions and none of importance in the dosage required to treat ringworm infections. Its mode of action is still uncertain; in the concentration obtained in human tissue it is probably fungistatic rather than fungicidal. Optimum dosage levels and duration of treatment have still to be established, and it is too soon to say whether the effects will be lasting in all cases.

If griseofulvin fulfils its early promise, the whole concept of the treatment of chronic ringworm infections is likely to change. In the meantime it offers fascinating prospects for experiment.

* Grisovin (griseofulvin) was supplied by Glaxo Laboratories S.A. (Pty.) Ltd.

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PADVEILIGHEID

Die ernstige en ingrypende geneeskundige, maatskaplike en algemeen-menslike implikasies van die heersende onbevredigende verkeertoestande in ons land is gedurende die afgelope tyd allerweë beklemtoon in die algemene pers

sowel as in die mediese pers. In sy onlangse afskeidsrede as President van die Tak Noord-Transvaal van die Mediese Vereniging van Suid-Afrika het dr. J. G. du Toit,¹ byvoorbeeld, 'n ongedempte soeklig gewerp op die siekte van

padongelukke. Elders in hierdie uitgawe van die *Tydskrif* plaas ons 'n bydrae van dr. G. T. du Toit—'n brief waarin hy aantoon watter praktiese maatreëls daar hier en elders in die wêreld gedoen word om die verkeer veiliger te maak, en waarin hy voorbeelde van sulke maatreëls, soos die gebruik van veiligheids gordels in motors, ens. bespreek.

Dit is nie ons doel om hier weer op die statistiese besonderhede van padongelukke in ons land in te gaan nie. Diegene wat in dié besonderhede belangstel, sal hulle vind in die artikel van dr. du Toit waarna ons so pas verwys het, sowel as in die talle algemene geskrifte wat gereeld in die dagblads verskyn en in die rekords van die Nasionale Padveiligheidsorganisasie wat reeds al sedert 1949 onmisbare dienste op hierdie gebied gelewer het. Wat ons egter wel wil doen is om die algemene beginsels van 'n breë frontaanslag op hierdie probleem te omskryf en te beklemtoon.

1. In die eerste plek sou ons wil sê dat die probleem so 'n groot omvang aangeneem het dat slegs optrede op 'n omvattende nasionale grondslag 'n belofte van sukses kan inhou. Daar behoort 'n sentrale beplanningsraad te wees bestaande uit verteenwoordigers van die regering op die hoogste vlak en aangevul deur lede van die sentrale en plaaslike vervoerdepartemente, lede van die Nasionale Padveiligheidsraad, lede van die mediese professie en verteenwoordigers van die algemene publiek.

Die beginselsake waaroor hierdie sentrale beplanningsraad moet besluit, sal onder andere insluit die probleme van stads- en straat aanleg en die bou van paaie; verkeersmaatreëls soos snelheidsbeperkings op alle soorte voertuie insluitende gewone en kragaangedrewe fietse, motorfietse, bromponies, ligte en swaar motors (veral die groot moderne motors wat talle kere meer perdekrag ontwikkel as wat enige motorbestuurder ooit nodig het), en vragmotors en busse; die skepping van 'n nasionale verkeersbeamptekorps

wat op die hoofpaaie dwarsoor die land kan optree ter aanvulling van dienste van plaaslike verkeersbeamptes; die standaardisering van die vereistes van registrasie en herregistrasie van alle motorbestuurders; die uitwerk en invoer van omvattende skemas van skool- en naskoolse opvoeding op hierdie gebied; volgehoue verbeeldingsryke reklame; en stelselmatige navorsing oor al die belangrike menslike en tegniese fasette van die vraagstuk van padveiligheid.

2. In die tweede plek sou ons wou sê dat optrede op die individuele vlak net so belangrik is as optrede op die nasionale vlak. Dit sou ons tot skadelike en gevaarlike valse gerustheid sus as ons dink dat 'n sentrale padveiligheidsraad ons as persone van alle verantwoordelikheid onthef. Trouens, die verantwoordelike sin en die gewete van elke persoon bly op hierdie gebied, soos op alle ander gebiede, nog altyd ons sterkste waarborg van die voortbestaan van 'n veilige en menswaardige lewenswyse.

Onder die aspekte van hierdie probleem wat binne die bestek van persoonlike verantwoordelikheid val, sou ons kon noem: die gedurige aankweek en wakker hou van 'n „sosiale en padgewete”—as voetgangers teenoor bestuurders van voertuie en as voertuigbestuurders teenoor medepassasiers en voetgangers; hofflikheid en welwillendheid; 'n besef van die gevare van die gebruik van sterke drank deur persone wat moet bestuur, van spoed en van die baie vorms van kinderagtige pronk- en selfgeldingsbestuur wat so dikwels noodlottig eindig.

As verantwoordelike en beskaafde mense moet ons leer om, soos op alle ander gebiede van die maatskaplike lewe, ook op die gebied van ons ingewikkelde moderne verkeerstelsel as individue en groepe en organisasies saam te span met die doel om ons weg deur die wêreld so versigtig en veilig as moontlik te baan.

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LEDERLE CARDIAC SYMPOSIUM

We are publishing in this number of the *Journal* summaries of papers delivered at the Lederle Cardiac Symposium held in Johannesburg in July 1958.

The Southern African Cardiac Society approached Messrs. Lederle Laboratories with the suggestion that a grant be given to finance this symposium. This firm readily agreed, and a very successful conference was held, attended by over 70 physicians, thoracic surgeons, and research workers from all over the Union of South Africa and Rhodesia. Most of the money was spent on subsidizing travel fares of delegates from Rhodesia, the Cape Province, and Natal.

Both the Southern African Cardiac Society and Messrs.

Lederle Laboratories are to be congratulated on the initiative shown in this matter. This meeting is one of the many examples of happy cooperation between scientific societies and pharmaceutical firms in the promotion of research in this and other countries. The symposium is to be reprinted in booklet form and sent to interested physicians all over the world.

It is hoped that sufficient funds will be available to invite cardiologists from abroad to attend the next symposium and so stimulate interest and exchange of ideas among physicians interested in cardiology.

The papers printed in this number bear testimony to the high standard of cardiology attained in South Africa.

TALRUBRIEK

Die Taalkomitee van die Geneeskundige Skool van die Universiteit Stellenbosch stel voor om te gebruik:

1. Kollabeer (werkwoord) en kollaps (selfstandige naamwoord), en daarby ook prolabeer en prolaps.

Kollabeer (via Nederlands uit Latyn) is vir die meeste mense heeltemal vreemd, en *kollaps* lyk soos Engels sonder meer, maar *prolaps* is al bekender, sy dit dan dikwels in sy

Latynse vorm *prolapsus*, en dan ook *prolabeer*. Dit sou *kollaps* en *kollabeer* aanneemliker kan maak. Waar die Komitee nou geen ander geskikte woord kon vind nie en dié vier woorde ook reeds in die Akademielys voorgestel word, oordeel die Komitee dat dit maar aanvaar moet word.

2. Vomeer, braak? Hoewel dit ter wille van die samehang met ons ou boerewoord „(grou/wit) vomitief” gelukkig sou

gewees het as ons *vomeer* kon gebruik, het navraag aan die lig gebring dat baie-baie mense die woord *vomeer* nie ken nie (wel die 'plat' *vermeer*, vgl. ook *vermeerbossie*). Nou vind hulle *braak* nie juis meer verhewe nie, maar baie is darem gewoon aan bv. *braking* en *braakmiddel*. Daar word dan nou voorgestel om te gebruik:

- braak (werkwoord)
- braking (s.n.w.: die proses)
- braaksel (dit wat uitgebraak word)
- braakmiddel.

3. Fossa iliaca, meervoud fossae iliaca.

Wie Latyn wil gebruik, gebruik dit en spel op sy Latyns. Wie *fossa* in die meervoud sou verafrikaans tot *fossas* (soos paginas, alineas e.d.m.), is vry om dit te doen, maar dan nie met die Latynse vorm van die s.n.w. daarby nie:

fossas iliaca deug onses insiens nie. Ons sou dus kon kry: fossa(e) iliaca(e), of net fossas (Afr.) of net fossae (Lat.).

4. Vir die Eng. ulcer word voorgestel:

Lat. *ulcus*—*ulcera*, of verafrikaans: *ulkus*—*ulsera*—*ulserasie*.

5. Lat. (a) *incisura* bly net so, of ons gebruik daarvoor die Afr. *keep*.

(b) *Sulcus* bly net so, of ons gebruik daarvoor Afr. *groef*, of, wie bv. *bisipitale* daarby wil gebruik, met die Afr. *uitgang* -ale, sou moes spel: *bisipitale sulkus*.

(c) *Gyrus* bly net so of word verafrikaans tot *girus*, of ons gebruik daarvoor Afr.: *winding*.

6. Eng. *cortisone*, Afr. *kortisoen*.

AN APPROACH TO THE PROBLEM OF RECURRENT VARICOSE VEINS

M. A. LAUTRÉ, F.R.C.S. (ENG.), Johannesburg

On asking for a return of the number of cases of athlete's foot in a 30-bed military ward during the last war and getting the reply '29' I should have forborne to pursue the matter further. The one exception was, of course, a bilateral amputee. A rather similar reply would have been received, one felt in one's gloomier moments, had the enquiry been directed towards the number of relapses at a varicose-vein follow-up clinic. Those were the days of friendly intimate little ligations of isolated segments of the saphenous vein or voluminous drenching of the venous bed of a limb with large quantities of sclerosing solution. Happily, all that has gone by the board—or to the board the cynical might add having military pensions in mind.

Although treatment of varicose veins has undergone considerable modification and improvement since that time the percentage of relapses still seems lamentably high—at any rate in this country. It is difficult to arrive at actual figures. From my own experience I should say that 1 out of every 5 cases referred to me has been operated on for the condition previously, especially amongst railway employees I see—a genus with an apparent predilection for this disease, a rail worker without varicose veins being about as rare as a shunter with 10 intact digits.

Operations of sorts for varicose veins, being relatively non-lethal procedures, are carried out by all and sundry throughout the country without adequate experience or, apparently, a true appreciation of the pathology of the condition.

The evolution of the modern treatment of varicose veins during the last 2 decades has been brought about through several stages, viz. (1) high ligation combined with extensive sclerosing therapy, (2) high ligation supplemented by subsidiary incisions plus moderate sclerosing therapy, (3) incomplete stripping, i.e. groin-to-knee stripping plus limited sclerosing therapy, (4) complete stripping. The last, which is the method of choice at present, involves a radical Trendelenburg operation with groin-to-ankle stripping, ligation through separate incisions of all main tributaries and perforators, excision of all visible varicosities, and post-operative sclerosing of minor residual varices.

The justification for these evolutionary steps is clearly

substantiated by statistics. Thus Lofgren *et al.*¹ showed that after 5 years the results in 140 limbs treated according to method 1 were: good 40%, fair 5%, poor 55%. On the other hand in 128 limbs treated according to method 4 (complete stripping) the results were: good 94%, fair 6%, poor *nil*. Comparing the results of methods 3 (incomplete) and 4 (complete stripping), Myers and Smith² showed a recurrence rate after 2½ years of 19% in 114 cases in the former, and 2% in 153 cases in the latter. The whole picture has thus changed completely. Operations for varicose veins which were previously relegated to the intern now fall within the province of an experienced vascular surgeon, and what appeared at first to be a simple little procedure is really an elaborate affair.

Many years will elapse before Utopian results like those just quoted will have become universal. In the meantime surgeons will continue to be faced by that depressing entity—the relapsed varicose vein. In dealing with these cases results will depend upon accurate investigation of the condition rather than on technical skill. It is futile to 'go for' the varicosities hoping for the best, without finding out why they are there; and it is as well to start with the rather unpalatable assumption that the previous surgeon was as competent as oneself, and to attempt to discover the pitfalls which eluded him.

CAUSES OF RELAPSE

From personal experience and a survey of the literature I find that the causes for relapse are as follows:

1. *Incomplete Trendelenburg*. This has always been the main cause for relapse. In the series of 510 operations for recurrent varicosities at the Mayo Clinic (1950-1954) reported by Lofgren *et al.*³ 61% were found to have undergone incomplete Trendelenburgs although they had been performed by competent surgeons—about one-quarter of them in fact at the Mayo Clinic itself. The operation demands more care than is usually afforded it. As pointed out by Dodd and Cockett,⁴ no Trendelenburg can be considered complete until half an inch of the femoral vein above and below the saphenous opening has been visualized by the surgeon. It is therefore essential to review the Trendelen-

burg—a tedious and depressing task involving a lengthy dissection through fibrous tissue with often at the conclusion a 'bag' of one or two rather insignificant mildly exstulatory veins. There is, however, always the prospect of finding a big medial cutaneous vein or even an accessory saphenous or (in hushed tones) the main vein itself intact!

2. *Reopening of tributaries.* When one realizes that the venous pressure in the veins of the leg can rise during straining to 200 mm. Hg it is not difficult to imagine how small tributaries left in communication with unobliterated portions of the superficial system can soon enlarge to produce varicosities. In fact it is surprising that there are not more recurrences. Nature has such an amazing power of restoring the *status quo ante* that it would seem reasonable to accept the premise that no operation for varicose veins can ever be claimed as a 100% cure. The most radical is at best an approximation. Even where complete stripping is done and all the major tributaries ligated it must be a question of time before some small insignificant veins dilate sufficiently to produce some degree of recurrence. When they are small these can be dealt with in the early stages by sclerosants; if they increase and cause symptoms they have to be dealt with surgically and the problem is to discover their source. Here I think venography, that much maligned handmaiden of vascular surgery, is of incalculable help.

The recurrent varicosities which frequently appear—e.g. at the outer side of the thigh or knee—may have remote sources and it is futile to attempt to excise them without dealing with their origin. By venography this is technically not difficult to determine. A low-sited varix is cannulized with a No. 2 polythene tube, and the patient put in the slightly head-up position on the X-ray table. Dye is then injected as rapidly as possible, a light tourniquet having been applied proximally to direct this into the deeper channels. By watching the course of the dye under the screen the basic source of the varices can usually be determined, though the examination may have to be repeated with a tourniquet at different levels.

3. *Leaking perforators.* If the indirect perforators often show a tendency to re-form how much more must the direct perforators do so, particularly in the lower leg. These wide channels, if not incompetent before operation, are probably often rendered so by stripping, and their tributaries must inevitably dilate under the venous pressure of the deep veins into large varicosities, unless they are specifically ligated under the deep fascia at the time of operation. In the lower leg venographic information of these channels is perhaps more readily obtained by using Gunnar Bauer's technique.⁵ A vein on the dorsum of the foot is cannulized and dye injected with the patient erect in front of the X-ray table, a light tourniquet having been applied above the ankle. Antero-posterior and lateral pictures are then taken (or the patient screened) (a) immediately after the dye has been injected and (b) after exercise—3 vigorous press-ups. By this means information can often be obtained of the exact site of reflux from the deep to the superficial systems and which of the perforators are incompetent. Further, an indication will be given of how the deep system is functioning—complete emptying of the dye from the calf should, according to Bauer, occur after the press-ups, non-clearance implying obstruction or incompetence of the deep veins at the popliteal level or higher.

It might be argued that all this is somewhat unnecessary because a generous incision would inevitably show up the sites of the perforators. These legs, however, are often poor material, showing delayed healing of wounds and sometimes skin necrosis; so that any means of limiting surgical incisions should be eagerly adopted.

4. *Neglect of the small saphenous.* Although this vein is incompetent only 1/8th times as often as the great saphenous it is responsible for quite a number of so-called relapses—particularly where it shunts its flow to the inner side of the leg and tries to throw the blame on its big brother. As the terminal part of the small saphenous lies for a good deal of its course under a tough deep fascia, clinical examination is often difficult and incompetence may easily be overlooked (Fig. 1). Ligation of this vein, as with the great saphenous,



Fig. 1. Venogram of an incompetent small saphenous in a patient who had undergone stripping of both systems 18 months previously. When the popliteal area was re-explored the vein, lying deep in the muscle, was found only after a careful search which, but for the venogram, would have been abandoned—as it probably had been on the first occasion.

must be done flush with the deep vein and calls for a generous transverse incision behind the knee with adequate retraction.

5. *Congenital arterio-venous shunts.* When at all extensive these present at an early age and are usually readily diagnosed by the characteristic clinical picture—a naevoid appearance of the skin, local heat, often a thrill, and coldness with possible ulceration distally, accompanied usually by increase in the length of the limb. Minor degrees of this condition, however, may occur later in life and present as 'recurrent varices'. This entity is to be suspected after rapid recurrence of varices in an unusual situation. It can generally be diagnosed by means of an arteriogram with carefully taken serial pictures of the affected area. Although no known surgical treatment is of any use, establishing the diagnosis is of importance for maintaining the *amour propre* of the surgeon and preventing the patient from undergoing a series of useless and unnecessary operations.

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VARICOSITIES ASSOCIATED WITH GRAVITATIONAL CHANGES

It is accepted that the clinical picture of the fully developed 'gravitational leg'—gross oedema, induration, cyanosis with or without ulceration—is nearly always due to femoral or ilio-femoral thrombosis (and that these changes are directly proportional to lateness of diagnosis and lack of adequate preventive measures taken at a stage before the condition has become irreversible). Quite a different picture is presented by the early gravitational leg, with mild oedema, pigmentation, slight induration and possibly ulceration. This category, commonly referred to as the 'varicose' leg, has been shown to be due to primary incompetence of the superficial venous system in a certain proportion of cases only. The remainder (according to Dodd and Cockett⁴) are due to antecedent thrombosis of the deep veins of the calf, with extension of the process to the perforators; this results in re-canalization and subsequent incompetence of these vessels, the increased pressure being transmitted to the adjacent superficial veins, which accordingly dilate and also become incompetent. The distinction between these two categories is a matter of some moment, for treatment will depend upon the underlying pathology. In the first group the incompetence starts at the groin even though the effects are most manifest in the lower leg; treatment is therefore the radical operation for incompetence of the great saphenous system. In the second group, on the other hand, the incompetence starts in the lower leg; treatment is primarily directed to the leaking perforators and calls for subfascial ligation of these vessels, only those superficial veins which are secondarily involved needing excision. These are often localized to the lower leg, the saphenous above the knee being quite normal. As they add a burden to the already handicapped deep venous return their removal will be of benefit to the patient, whereas a blind stripping of the entire saphenous system including those portions which are functioning normally is bad and meddlesome surgery.

Proper assessment of the venous return in this condition is therefore of fundamental importance. There are some who claim to be able to arrive readily at a diagnosis clinically. Personally I find I am not adequately gifted. The extent and localization of reflux of an incompetent superficial venous system in a thin-skinned individual with big soft-walled veins is a matter of elementary hydrodynamics, without having recourse to the numerous tests by which various surgeons in the past have gained eponymity. It becomes a very different problem, however, in the obese, in those with thick-walled veins, or where some oedema is present. In such cases I have come to appreciate the value of venous pressure estimation. The following method, based on that of Warren *et al.*⁶ is simple and, I find, adequate (Fig. 2).

A No. 2 polythene tube about 3 foot long is tied into the great saphenous at the base of the 1st metatarsal (this incision heals quicker and causes less discomfort than one higher up). It is joined by a 3-way cock to a 4-foot length of similar tubing fixed alongside a centimetre tape-measure against the wall, zero being at floor level. The tubing is filled with a solution of indigo-carmin in saline with citrate or heparin added, by means of a syringe attached to the 3-way cock, further solution being introduced when necessary to displace blood which has gravitated into the tube and thus prevent clotting. With the patient standing relaxed against the wall the stopcock is opened and a reading taken

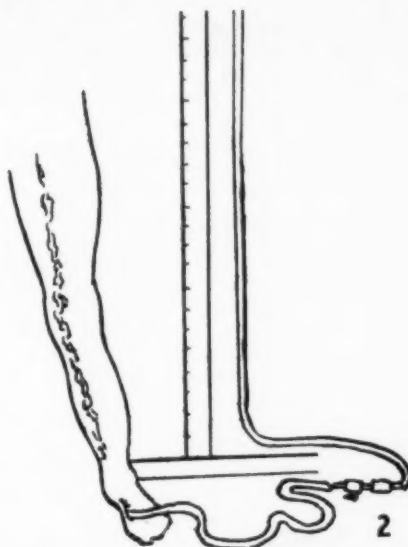


Fig. 2. Diagram of a simple method of taking venous pressures. The cannulizing tubing (about 3 feet) is long in order to prevent blood from reaching the stopcock when the pressure rises after exercise, and to facilitate marking time.

by the tape-measure of the level of the dye in the tube; this will represent the height of a column of venous blood corresponding roughly to the level of the right auricle. The patient is then told to mark time—a double pace per second with a 6-inch lift—for 30 seconds (or longer if the pressure continues to fall) and a reading is then taken. The process is repeated 3 or 4 times and an average taken. The results are interpreted as follows: In a normal individual the resting venous pressure of about 130-140 cm. should drop on exercise by round about 70-80 cm. A drop in pressure of considerably less than this means that the calf pump is ineffective, i.e. there is a block to the deep venous return or part of the blood which is being pumped out is leaking back because of incompetence in the valves of either the deep or superficial system or both.

A rise in venous pressure on exercise or only a small drop (0-10 cm.) is almost certainly indicative of deep-vein obstruction or incompetence, probably ilio-femoral. On the other hand a moderate drop (40-50 cm.) is probably due to superficial incompetence (varicose veins) or a mild degree of deep incompetence (calf-vein thrombosis); or it may be due to a combination of the two.*

* The extent of the drop in venous pressure on exercise in varicose veins and deep-vein thrombosis shows considerable variations in published reports.⁸⁻¹⁰ The figures quoted above are an approximation of the majority and correspond closely to my own recent results. Wide variations in my earlier figures (and, I presume, in some of the published reports) was due to using a needle or too fine a polythene tube, cannulizing too small a vein and having too wide a tube relatively for the manometer, and not getting the patient to exercise vigorously enough. The use of a mercury baumanometer instead of the water manometer I found quite useless because of the prolonged time-lag. Further corroboration of these findings can be obtained by recording the rate of rise in pressure after ceasing exercise, the rate being proportionate to the degree of incompetence; but I found this index of little value, for only in gross cases did there seem any kind of parallel between the two.

The test is now repeated with a tourniquet applied to the calf. If a normal or near-normal drop on exercise is now obtained, it can be accepted that the pathology is purely that of varicose veins. Further information may be obtained by taking the pressure on exercise with the tourniquet applied at various levels down the leg. This may give an indication of the level to which incompetence has progressed in pure varicose veins and of which system is involved. In superficial incompetence consequent on calf-vein thrombosis it may indicate the site of the major leaking perforators. Obviously equivocal results are to be expected at times, as for instance where the gravitational changes are due to leaking perforators following a calf-vein thrombosis in addition to the incompetence of pre-existing varicose veins. This simple test is of considerable value, therefore, in deciding in border-line cases whether the pathology is primarily that of the deep or of the superficial system. Where further information is required venography can be carried out immediately after the test, making use of the same polythene tube in the vein into which the dye is to be injected (Fig. 3).

In gross chronic gravitational leg due to ilio-femoral

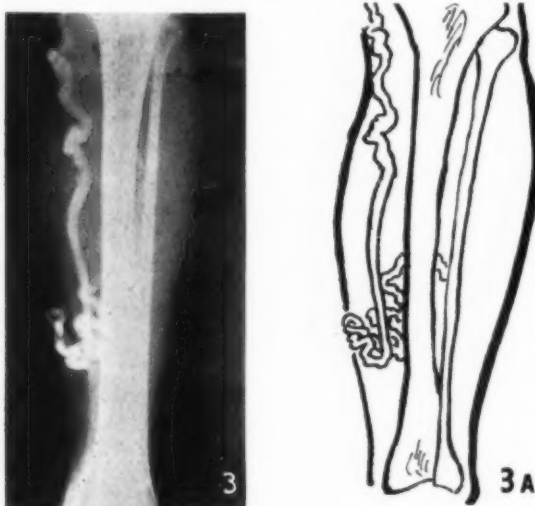


Fig. 3. The clinical picture, which suggested a calf-vein thrombosis syndrome seemed substantiated by a venous pressure drop on exercise of only 20 cm. With a tourniquet applied to the lower third of the leg there was a further drop of 45 cm., indicating gross incompetence of the superficial system. This venogram, which was then done, demonstrates clearly the real pathology.

thrombosis the problem is even more difficult. Here superficial veins enlarge primarily as a compensatory mechanism; and in so doing a certain proportion will inevitably become incompetent. The difficulty is to decide whether, and if so to what extent, these vessels should be ablated. Gravitational legs produce such a disability, and definitive surgery has so little to offer in this condition, that there is a temptation to strip all enlarged superficial veins at sight. It is, however, one which should be resisted, for the deprivation of a possible actively functioning superficial venous return will handicap the unfortunate patient even further. Clinical appraisal of the situation is extremely difficult. Venous pressure estimations are here of value, although the results may sometimes be inconclusive for, as Wright¹¹ has pointed out, it is difficult to assess the degree of pressure necessary in these thick legs to obstruct the superficial veins with a tourniquet. This much, however, can be claimed: Any increased drop in the venous pressure on exercise after the application of a tourniquet, must of necessity imply some incompetence of the superficial veins somewhere (although the converse is not necessarily true) and selective surgery will therefore be of help. Repeating the test with the tourniquet at various levels may further enable one to establish the level at which this incompetence begins and ends. Where doubt still exists I find the most practical criterion is the taking of the venous pressures at operation.

This is done by tying the polythene manometer into the vein whose function is open to doubt, and tilting the patient into a 45° head-up position. A rise in the dye level to that of the heart will indicate incompetence of the whole saphenous system, whereas a halt at a lower level will indicate the site of the lowest functioning valves. Interruption of the superficial veins can therefore be limited to the appropriate levels.

In conclusion, it must not be lost sight of that the present treatment of varicose veins is also merely an evolutionary phase which will probably be modified in a decade or two, and it is only by maintaining an observant and enquiring attitude to those recurrences we see, that their incidence will be reduced.

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SPONTANEOUS RUPTURE OF THE SPLEEN IN PREGNANCY: REPORT OF A CASE

D. KRUGER, M.B., B.CH. (RAND), *Brakpan*, and L. J. G. KRUGER, F.R.C.S. (EDIN.), *Springs*

Mrs. E.C.V., a European female, aged 28 was admitted to the Far East Rand Hospital on 13 October 1958 at 3.30 p.m. with the following history:

She was 22 weeks pregnant, and that morning, on getting up from the breakfast table, she felt a sudden, sharp pain in her left hypochondrium. She felt nauseous and vomited twice. The pain radiated to her left shoulder, down the left arm and up the left side of her neck. Previously she felt quite well, apart from

some dyspepsia, which she attributed to her pregnancy. She had had no previous illness apart from a few infectious diseases in childhood, and no operations; no malaria or typhoid. She had had 3 previous normal pregnancies and deliveries, the last being 6 years ago. She had not observed any vaginal bleeding, and no bowel or urinary symptoms. She emphatically denied any injury in the immediate past, and this was confirmed by her husband.

On Examination. She was pale and shocked. Blood pressure

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80/50 mm. Hg. Pulse rate 110. Conjunctivae, gums and tongue were pale. No cyanosis. The abdomen moved very little with respiration. No evidence of bruising. Generalized abdominal tenderness. Rigidity and guarding more marked in the left hypochondrium. Rebound tenderness present. Shifting dullness present. Bowel sounds present but decreased. Vaginal examination revealed nothing abnormal. Rectal examination showed tenderness. Kehr's sign* and Saegesser's sign† were positive; a positive Ballance's sign‡ could not be elicited.

The diagnosis of splenic rupture was made and, after adequate blood transfusion, laparotomy was performed under general anaesthesia. A rupture 1 inch long into the splenic parenchyma at the upper pole on the convex surface near the superior border was found. The spleen felt normal in size and consistency, not unduly fixed nor unduly mobile. No perisplenic adhesions were present. Splenectomy was performed.

The spleen was normal in size and appearance, the laceration was fairly superficial, and sectioning showed no abnormality. The patient made an uninterrupted recovery and was discharged on the 8th post-operative day. On 19 February 1959 she was delivered of a full-term normal boy weighing 9½ lb.

DISCUSSION

Spontaneous rupture of the spleen can be defined as 'rupture of the normal spleen occurring in the absence of trauma'. Since it was first described by Atkinson in 1874, reports have periodically appeared in the literature.

Indirect injuries, such as sudden rotation, flexion or extension of the trunk rarely cause rupture. Splenic enlargements, as those of malaria, typhoid fever and septicaemia predispose to easy and even spontaneous rupture, as also do perisplenic adhesions. Rupture may be caused by physiological strains of coitus, pregnancy, labour or defaecation. Spontaneous rupture of the normal spleen has been described, but in most cases it has been established that the history of injury was forgotten by the patient.¹

Orloff and Peskin² found that, in all, 71 cases of spontaneous rupture of the spleen have been reported in the English literature. Of these, 43 cases could not be accepted by them because there was a possibility of trauma, or inquiry as regards injury was inadequate, or the spleen was pathological, or no histological report was available. Of the 28 accepted cases, 19 were male and 9 female, of whom 3 were pregnant but in good health.

Aetiology

The following theories have been advanced, but not one can wholly be accepted.

1. The spleen is diseased in only one area and since rupture occurs in this area all evidence of pathology is lost.

2. A state of portal congestion exists, giving rise to digestive symptoms and chronic venous congestion of the spleen, which ruptures as a result.

* Pain in left shoulder.

† Pain on pressure between two heads of sternomastoid muscle.

‡ Fixed dullness of left hypochondrium and shifting dullness of right flank.

3. The spleen is abnormally mobile and undergoes repeated episodes of torsion, the resultant congestion causing rupture.

4. Reflex spasm of the splenic vein causes acute congestion with rupture.

5. Degenerative changes in arteries cause arterial rupture, interstitial haematoma, and subsequent rupture of the spleen.

6. Rupture of artery occurs owing to local vascular abnormality similar to congenital 'weak-spots' in the arteries at the base of the brain.

7. Changes take place in the spleen during parturition, predisposing it to rupture.

8. A normal spleen never ruptures, all supposed instances of spontaneous rupture being due to forgotten trauma.

In regard to the effect of pregnancy, Barcroft³ showed in experiments on the exteriorized spleen of pregnant dogs that the organ shrinks during pregnancy, and observation in human beings indicate that the spleen neither enlarges nor becomes congested during parturition.

Trauma is difficult to confirm.

Symptoms

All 28 accepted cases in Orloff and Peskin's series had abdominal pain; in 54% the pain was initially in the left hypochondrium. Nausea and vomiting were noted in 68%, 71% felt faint or experienced dizziness, and Kehr's sign was present in 65%. Findings on examination were generally those of peritoneal irritation and loss of blood. In only 1 of the 28 cases was the correct diagnosis made before operation.

In our case the notable features are absence of trauma, absence of any disease which may have caused splenic pathology, absence of perisplenic adhesions, absence of undue mobility of the spleen, the presence of pregnancy, and physical findings identical with that of traumatic rupture of the spleen.

SUMMARY

A case of spontaneous rupture of an apparently normal spleen in pregnancy is described.

A review of the literature and theories on aetiology are mentioned.

The signs and symptoms in this case are identical with those in traumatic rupture of the spleen.

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THE LEDERLE CARDIAC SYMPOSIUM: ABSTRACTS OF PAPERS

The following are summaries of papers presented at the Lederle Cardiac Symposium which was held in Johannesburg on 25-26 July 1958 under the aegis of the Southern African Cardiac Society. The chairmen of the various sessions were: Drs. B. A. Bradlow, M. Nellen, J. K. Drummond, B. van Lingen, A. F. Graham, and Prof. H. W. Snyman.

PRESENTATION—A CASE OF DIFFERENTIAL CYANOSIS IN AN ONE-YEAR-OLD WHITE BOY, DUE TO AN AORTIC SEPTAL DEFECT, BY J. M. COMBRINK, M.MED. (MED. INT.) (PRET.), Pretoria

History. Heart murmur since birth, frequent upper respiratory infections, cyanotic attacks.

Physical Examination: Dyspnoea, pulse rate 60, regular rhythm liver slightly enlarged. The fingers of the left hand and the toes of both feet showed clubbing with cyanosis. The fingers of the right hand were pinker in colour. Right ventricular hypertrophy. Systolic thrill at the heart base and rough systolic murmur, grade 3/6 maximal in the 2nd and 3rd left intercostal spaces. At times a diastolic murmur was audible in the same area.

ECG. Total A-V dissociation, right ventricular hypertrophy. **X-ray.** Enlarged heart with increased pulmonary vascular markings.

Oximetry. Oxygen saturation of the right brachial artery was 78% as against 64% in the right femoral artery.

Thoracotomy showed a large aortic pulmonary window, which was not technically amenable to surgical closure without the pump oxygenator.

A CASE OF TETRALOGY OF FALLOT WITH SYSTEMIC HYPERTENSION IN A WOMAN AGED 39, BY W. H. DAVIS, M.MED. (MED. INT.) (PRET.), Pretoria

History. Apparently she was blue at birth. Her effort tolerance as a child and as an adult was limited and has become more defective since the birth of her child 5 years ago. She can, however, still walk up 3 flights of stairs and shop all day.

On Examination. Slight cyanosis, no clubbing of the fingers. Blood pressure 196/115 mm. Hg. Heaving apex between mid- and anterior axillary line. There was no parasternal pulsation. A thrill could be felt at the base. Apex grade-II systolic blowing murmur and a decrescendo early diastolic murmur. At the pulmonary area a continuous murmur. ECG showed predominantly right ventricular and right atrial enlargement with some left ventricular enlargement.

X-ray. Enlarged heart, especially right ventricle, with pronounced bay in the pulmonary-artery segment and a bronchial-artery circulation pattern.

Oximetry. At rest: 81%-76% arterial oxygenation. On effort: For 3 minutes oxygen saturation dropped to 69%. On exposure to 100% oxygen, saturation rose to 95%.

Cardiac Catheterization. Pulmonary-artery pressure 31/18 mm. Hg. Right ventricular pressure 180/15 mm. Right atrium mean 13 mm. Femoral artery 194/114 mm. 94% oxygen saturation. No shunts demonstrated.

Conclusions. Tetralogy of Fallot; severe infundibular stenosis with marked collateral bronchial flow and systemic hypertension.

Discussion

1. Marked collateral bronchial flow probably due to systemic hypertension and flow of blood from a high-pressure (aorta) to low-pressure circulation. (a) This is probably the mechanism of the continuous murmur. (b) This marked flow with the increased right ventricular pressure even in the presence of a severe pulmonary stenosis explains the absence of cyanosis at rest.

2. Pulmonary valvotomy alone would in a case with such hypertension result in a severe left-to-right shunt on removing the obstruction. Repair of the septum together with pulmonary valvotomy would be essential.

3. Any condition that would increase the systemic pressure without increase of the pulmonary pressure would cause an increase of the pulmonary flow and diminution in cyanosis. If a drug with such an action were available, the cross-section of the pulmonary valve could be worked out by taking arterial and venous oxygen saturation and pressure readings.

A CASE OF PERSISTENT LEFT SUPERIOR VENA CAVA DRAINING INTO THE LEFT ATRIUM AS A CAUSE OF CYANOSIS, BY W. H. DAVIS, M.MED. (MED. INT.) (PRET.), Pretoria

History. (1) Cyanosis since birth. (2) Severe cyanosis with exercise without severe dyspnoea. (3) Ordinary effort tolerance fair, but for 50 years marked dyspnoea on running. (4) Fainting attacks with severe exercise. (5) Mentally retarded.

On Examination. (1) Central cyanosis with clubbing of fingers and toes. (2) No cardiac enlargement; no thrill; left parasternal grade-II systolic murmur, soft mid-diastolic murmur, and a soft second pulmonary sound.

Cardiac catheterization from the left arm showed oxygen saturation values the same as for the femoral artery. The pressure curves were left ventricular and aortic. The catheter actually passed from the left cephalic vein into a persistent left superior vena cava, left atrium, left ventricle and aorta. Catheterization from the right arm showed normal findings for right atrium, ventricle and pulmonary arteries as far as pressures and oxygen saturation were concerned.

At operation the finding was a persistent left superior vena cava draining into the left atrium with a very large hemi-azygos vein.

Discussion

1. The embryology of a persistent left superior vena cava and related venous anomalies were discussed. The importance of a

vein connecting the two superior venae cavae to make the condition amenable to surgery was emphasized.

2. Pressure curves were discussed.

AMOEBIIC PERICARDITIS, BY J. KELMAN DRUMMOND, M.R.C.P. (EDIN.), AND N. MCE. LAMONT, M.D., F.R.F.P.S., Durban

A series of 8 cases was reported out of a study of 250 cases of hepatic amoebiasis and 1 additional case.

Reference to world literature showed a low rate of diagnosis before death (ante-mortem diagnosis in only 4 cases), and included one survey (2 out of 47 cases). Of the 8 cases of the present series the diagnosis was missed in 1.

It was stressed that the features of amoebic pericarditis were closely linked with those of the liver abscess, its invariably precursor, and some of the problems of diagnosis of liver abscess were mentioned.

There were 3 distinct phases in the pathogenesis, viz. (1) Pericarditis with 'sympathetic' effusion, (2) intrapericardial rupture of the liver abscess, and (3) the phase of occlusion, with thickening of the pericardium.

Of the 8 cases, 2 were arrested in phase 1, and recovered; 1 died in phase 2 in state of shock; 4 died in phase 3, after showing initial improvement, death taking place even months after admission from progressive cardiac tamponade; the outcome of the last case (also in phase 3) was left in some doubt.

Prognosis and Therapy

Good drainage, surgical if necessary, of any abscess of the left lobe of the liver (which will suffice for phase 1) is imperative.

Inadequate drainage of the pericardium is likely to lead to constrictive pericarditis (in phase 2).

Adequate drainage in phase 2 is provided by an indwelling polythene tube in the posterior pericardium.

Simple aspiration is probably inadequate if later possible constrictive pericarditis is to be avoided.

The polythene tube may be introduced via the liver and the diaphragm.

The value of irrigation with either emetine or antibiotics is not established. The pus is sterile, but secondary infection must be watched for.

Amoebic pericarditis is a grave illness with severe toxæmia, shock and tamponade, but alert diagnosis and thorough drainage should give good results.

HYPOTHERMIA—ITS APPLICATION TO CARDIOVASCULAR SURGERY, BY DENNIS N. FULLER, F.R.C.S., Johannesburg

The effect of lowering body temperatures is to diminish metabolism. Temperatures of 28-29°C are desirable. In this series the lowest temperature recorded was 27.0°C. At this range of temperature the brain can tolerate 8-10 minutes cessation of circulation without damage. Probably longer periods would be safe, particularly if the carotid circulation were perfused with a low flow (as little as 15-30 c.c. per kg.) of arterialized venous blood. It is known from cardiac ischaemia in open heart surgery with a pump oxygenator that the myocardium at rest will tolerate an hour or more of complete cessation of the coronary flow.

One graph shown illustrates that the oxygen requirements of a hypothermized (27°C) arrested heart are 3% of a normal beating heart. In an other graph the effect on the glycogen, creatine phosphate and adenosine triphosphate contents of the myocardium are illustrated under conditions of (a) hypothermia, (b) potassium arrest, and (c) citrate arrest.

21 cases were operated on in Johannesburg under hypothermia (2 at Baragwanath Hospital, 12 at the Transvaal Memorial Hospital for Children, and 7 at the Florence Nightingale Nursing Home). The particulars were as follows:

Diagnosis	No. of Cases	Deaths
Pulmonary valvular stenosis	4	0
Isolated right ventricular infundibular stenosis	1	0
Tetralogy of Fallot (infundibular stenosis)	3	2
Congenital aortic valvular stenosis	3	2
Congenital tricuspid atresia	3	1
Hypertensive patent ductus arteriosus	2	0
Truncus arteriosus	1	1
Traumatic aortic aneurysm	1	0
Atrial septal defect	2	0

The ages ranged from 4 months to 48 years. There were 6 deaths in the series of 20 cases. All deaths could be adequately

accounted for by technical or myocardial reasons. In none could the method of hypothermia be incriminated.

THE ASSESSMENT OF DYSPNOEA IN CARDIAC DISEASE, BY R. KAMENER, M.B., B.CH. (RAND) AND S. ZWI, M.B., B.CH. (RAND), Johannesburg

A cardio-respiratory unit has to investigate dyspnoea—to verify its presence, seek its cause, determine the necessity for treatment, or assess changes in its severity after treatment. Until recently, dyspnoea was regarded as the consequence of a reduction in vital capacity or cardiac output, anoxia, hypercapnia, altered pH, or over-activation of the Hering-Breuer reflex. These, however, may be accompaniments, not causes, for they are rarely detectable before dyspnoea is advanced.

To ventilate the lungs, the respiratory muscles do 'work' which can be measured. The work depends on the volume ventilated, the force to stretch the elastic lung (compliance), and the force to draw air into the lung (non-elastic resistance). In cardio-pulmonary diseases, at least 1 of these 3 factors is excessive, and the resultant increased respiratory work causes fatigue of the respiratory muscles. This muscular fatigue is probably the basis of the symptom of dyspnoea. Two practical examples illustrate this approach to dyspnoea:

1. In mitral stenosis, disability is sometimes difficult to assess. In the early stages, measurement of compliance or cardiac catheterization usually produces equivocal results. We have found it more helpful to subject patients in the early stages to standardized grades of moderate exercise and measure the volume of air ventilated. When this is excessive, dyspnoea is present. The procedure is safe and simple, and appears to be reliable.

2. In normal subjects or patients with cardiopulmonary disease in which the heart is not under stress, exercise (and hyperventilation) lowers the non-elastic resistance of the lung. However, when the heart is 'decompensated' (as may be inferred from cardiac catheterization or other studies), the opposite occurs, i.e. on exercise non-elastic resistance rises above its resting level. This appears applicable to what is commonly regarded as right heart failure as well as left heart failure.

DIRECT LEFT AURICULAR PRESSURES IN MITRAL DISEASE, BY P. E. MARCHAND, M.Ch., M.D. (RAND), F.R.C.S., Johannesburg

Left atrial pressures were measured by the bronchoscopic route as described by Allison and Linden (*Circulation*, 1953, 7, 669). There have been no serious complications.

Normal left and right atrial traces are similar, though the left V wave is generally larger. In mitral stenosis the A wave is usually dominant and the diastolic gradient across the valve may reach 40 mm. Hg. Hypotension due to anaesthesia or cardiac irritation lowers the gradient. For this reason it is advisable to administer a small dose of a short-acting hypertensive drug immediately before pressures are measured. This also accentuates the incompetent pattern (Crawshaw *et al. Brit. J. Surg.*, 1954, 92, 1).

In auricular fibrillation the X descent disappears and the C and V waves merge to form a plateau curve.

It is too soon to formulate fixed criteria for mitral incompetence. Provided the left ventricular pressure is high the following two appearances, associated with a high diastolic gradient, suggest incompetence, viz.: (1) Dominant V wave, starting early in ventricular systole, with a steep Y descent which does not flatten at its base; and (2) a plateau curve with dominant V peak in the presence of normal rhythm.

These appearances were illustrated by 8 of our 63 pre- and post-operative pressure traces where mitral incompetence of known extent had been produced.

AORTIC EJECTION SOUND, BY MAURICE NELLEN, M.D. (CAPE TOWN), M.R.C.P. (EDIN.), M.R.C.P. (LOND.), LOUIS VOGELPOEL, M.R.C.P. (LOND.), AND VELVA SCHRIRE, M.R.C.P. (LOND.), Cardiac Clinic, Groote Schuur Hospital, Cape Town

A study has been made of 64 cases in which the aortic ejection sound was heard. The cases consisted of acquired aortic stenosis, aortic incompetence, aortic atheroma, hypertension, the congenital defects of severe tetralogy of Fallot, aortic coarctation, aortic stenosis, and 13 cases of pulmonary atresia.

The sound occurs soon after the first heart sound, is high-pitched like a click, and is loudest in the 3rd and 4th intercostal spaces but well heard at the mitral area and best at the aortic area.

The early aortic ejection sound may be the loudest component of the first sound and may be the only component of this sound audible at the base of the heart.

The sound must be differentiated from the innocent mid- or late-systolic click, the pulmonary ejection sound, splitting of the first sound, and an auricular sound.

When the first sound is split and the aortic ejection is also present, triplication of the first sound can be recorded.

Indirect carotid tracings show that the rise of pressure in the carotid artery precedes the ejection sound; thus it must be associated with ejection and not with opening of the aortic valves. In 3 cases of aortic stenosis calcification of the valves did not abolish the added sound.

Inhalation of amyl nitrate may make the sound inaudible or shortens its distance from the first heart sound, whereas it increases the audibility of a pulmonary ejection sound and its distance from the first sound.

THE ELECTROCARDIOGRAM IN BERI-BERI HEART DISEASE, BY V. SCHRIRE, M.R.C.P. (LOND.) AND J. GANT, M.R.C.P. (EDIN.), Cardiac Clinic, Groote Schuur Hospital, Cape Town

Fifty cases of beri-beri heart disease were studied electrocardiographically during 58 episodes of heart failure.

The most striking finding was a normal ECG when the heart failure was at its worst—33 cases. In the remainder, leads over the right ventricle were abnormal in 10 cases and over the left ventricle or both ventricles in 15.

Transient changes were a characteristic and diagnostic feature of the disease. Often fleeting and variable, changing from day to day and, on occasion, from ventricle to ventricle, they required daily ECG for their detection. They were frequently restricted to 1 or 2 praecordial leads. The right ventricular leads alone were affected 26 times. Changes in the left ventricular surface leads occurred 13 times and both ventricles were affected in 11. In occasional cases one ventricle was involved during one episode and the other ventricle during a recurrent attack. In 8 cases the tracings remained normal throughout.

The changes often preceded the diuresis but were maximal during the period of recovery from heart failure. Minor alterations also occurred and hypokalaemic patterns were an occasional complication during diuresis. Ultimate return of the ECG to normal was the rule where the period of observation was adequate (81%).

CLINICAL AND PHYSIOLOGICAL ASPECTS OF OEDEMA, BY B. SENIOR, M.R.C.P. (LOND.), M.R.C.P. (EDIN.), Johannesburg

In health, conservation of sodium and of water is largely mediated by secretion of aldosterone and of antidiuretic hormone. The stimulus to the secretion of aldosterone is a decrease in the volume of the intravascular component. A relatively greater osmolar concentration in the extracellular component than in the cells prompts secretion of antidiuretic hormone.

Apart from menstrual variations or excessive sweating or abuse of alcohol, control is so adjusted that fluctuation in the quantities of these substances within the body is minimal. The oedema of cardiac failure results from a discrepancy between pump input and output. Secretion of aldosterone increases and tubular reabsorption of sodium becomes greater. Oedema becomes manifest.

In long-standing cardiac oedema potassium depletion of the cells may occur through the use of antidiuretics or as a result of continued secretion of aldosterone. The decrease in cellular osmolar concentration consequent on potassium loss may provoke a secretion of antidiuretic hormone.

A paradox yet to be explained is the fact that in primary hyper-aldosteronism excessive sodium reabsorption is not associated with the presence of oedema.

Treatment should be directed at restoring the effective action of the pump. Where this is not achieved various agents are employed to produce a loss of body sodium. These agents and their actions are further discussed.

LONG-TERM ANTICOAGULANT THERAPY IN CORONARY THROMBOSIS, BY M. M. SUZMAN, M.D. (DURH.), F.R.C.P. (LOND.), Johannesburg

Observation was kept on 1,157 survivors of acute myocardial infarction. They were drawn from unselected hospital admissions and private practice, and had received anticoagulant therapy

during the acute phase of the presenting attack. They were followed till death or to the end of each year of survival for periods ranging from 1 to 10 years till the end of the present study.

Anticoagulant therapy was continued on a long-term basis in 353 patients for a total duration of 1,093 patient-years and a mean duration of 37.1 months; and of these 57 died—a total fatality rate of 16%.

To serve as a control group for comparison, 687 patients who received anticoagulants only during the acute phase of the infarction were observed for a total period of 2,084 patient-years and a mean duration of 36.4 months; and of these 329 died—a total fatality rate of 48%.

In 117 patients who discontinued their long-term anticoagulant therapy there were 47 subsequent deaths—a fatality rate of 40%. The duration of treatment in these cases did not influence the subsequent mortality.

During the first 5-year period annual fatality rates were significantly lower in the patients maintained on anticoagulants. It is concluded that long-term anticoagulant therapy improves the prognosis in survivors of acute myocardial infarction.

SYSTEMIC EMBOLISM—EVIDENCE AT MITRAL VALVOTOMY, BY J. C. VAN DER SPUY, DIP. SURG. (RAND), Pretoria

Out of a total of 58 patients operated upon for mitral stenosis, 20 patients either had presented pre-operative evidence of systemic embolism or were found at operation to have thrombus formation in the left atrium or its appendage. Of the 20 patients, 4 had a left-sided and 2 a right-sided hemiplegia, 1 a verbal aphasia and 1 a saddle embolus at the aortic bifurcation. In the absence of subacute bacterial endocarditis and of valve calcification, a thrombus arising in the left atrium was taken to be the cause of the embolism even when no thrombus could be found at operation. In such cases it was assumed that the only thrombus present had been dislodged and swept into the systemic circulation.

These 20 cases could be divided into 2 very distinct groups, viz. (A) 10 which showed marked enlargement of the left auricle, and (B) 10 which had a small or shrivelled left auricle.

Of the 10 in group A, 8 developed systemic emboli, in 4 of whom relatively small, dark-red, single or multiple thrombi were present in the periphery of the auricle, and in 4 no thrombosis was found; 7 showed sinus rhythm and 1 atrial fibrillation.

Of the 10 in group B, in none was there evidence of systemic embolization. In 2 the auricle contained whitish, organized thrombus only. In the remaining 8 the whole of the left atrium was lined with a very thick layer of thrombus having a soft muddy inner surface and an organized outer layer. In addition, 4 of these patients had one or more large loose thrombi which escaped from the left atrium on releasing the auricular clamp. In 9 atrial fibrillation was present and in 1 sinus rhythm.

In all the 20 patients there was a tightly stenosed valve and pulmonary hypertension.

Conclusions. In a patient with mitral stenosis, pulmonary hypertension and a very large auricle, one or more somewhat small thrombi tend to form in the periphery of the left auricle with marked tendency towards embolization. Organization of the thrombus, and consequent shrinkage of the auricle, markedly reduces the tendency towards embolization, even in the presence of massive thrombus formation in the left atrium.

THE BY-PASS OPERATION FOR PERIPHERAL ARTERIAL OBSTRUCTION, BY F. A. K. VAN WYK, M.MED. (CHIR.) (PRET.), Pretoria,

The most important cause of peripheral arterial obstruction is atherosclerosis. The occlusion is often localized in large vessels and may be suitable for an arterial graft.

Pre-operative investigations should include an arteriogram. The most suitable cases are those occurring in young subjects where the occlusion has occurred in a short segment of a major vessel such as the aorta and iliac arteries. The peripheral arterial tree must be patent to ensure satisfactory results.

The operation consists of the insertion of an arterial homograft to act as a by-pass of the obstruction. The affected segment of artery is not excised. Anastomosis of end of graft to side of host artery is made above and below the occlusion.

Indications for operation are intermittent claudication, rest pain, and impending and early gangrene. The best results are obtained in intermittent claudication, although in early cases of gangrene healing has taken place without amputation.

PULMONARY STENOSIS WITH INTACT VENTRICULAR SEPTUM AND FALLOT'S TETRALOGY—PRE- AND POST-OPERATIVE ASSESSMENT OF SEVERITY, BY AUSCULTATION, BY L. VOGELPOEL, M.R.C.P. (LOND.), AND V. SCHRIER, M.R.C.P. (LOND.)

Cardiac Clinic, Groote Schuur Hospital, Cape Town

1. A clinical and phonocardiographic study was made on 45 cases of pulmonary stenosis (valvular in 36 and infundibular in 9) with intact ventricular septum and on 52 cases of Fallot's tetralogy. Increasing severity of stenosis has an opposite effect on the duration of the systolic murmur in the two conditions, owing to the different dynamic situations present.

2. With an intact ventricular septum, the severer the stenosis the greater the duration of the murmur and the wider the splitting of the second sound. Auscultatory and phonocardiographic criteria were defined for grading the severity of the stenosis.

3. In Fallot's tetralogy, the severer the stenosis the shorter, earlier and softer the murmur becomes. The length of the systolic murmur was shown to provide an accurate means of assessing the severity of the stenosis.

4. Auscultation was found to be an excellent bedside method of predicting the surgical result. When severe pulmonary stenosis is converted into mild stenosis by a successful valvotomy or resection, the auscultatory features of severe stenosis are changed to those of mild stenosis. In Fallot's tetralogy a successful pulmonary or infundibular resection will convert a severe case into a mild one with corresponding change in the auscultatory findings. Less successful operations fail to produce the auscultatory features of mild stenosis.

ATRIAL SEPTAL DEFECT IN INFANCY, BY JOAN M. WAGNER, M.R.C.P. (LOND.), Johannesburg

The physical findings in 4 patients dying of atrial septal defect are described, in the hope that in the future such cases, which are difficult to diagnose in infancy, may be submitted for early surgery.

The ages at the time of death were 3 months (in 2), 4½ months and 2½ years. In each case autopsy showed pure atrial septal defect of 1.5 cm. diameter or more.

All 4 were markedly under-weight; 2 had repeated chest infections. All were severely dyspnoeic; 2 had collapsing pulses confirmed by blood pressure readings. The pulmonary second sound was split in all but markedly in only 1. In all, systolic murmurs were heard—in 1 a grade-III murmur at all areas, in 2 a grade-II at all areas, in 1 a grade-III in the third left interspace. Diastolic murmurs were heard in 3, in 1 a pulmonary-incompetence murmur, in 1 a mid-diastolic and in 1 a scratchy early-diastolic murmur. The jugular pulsations were not helpful. Electrocardiogram showed a large right auricle and right ventricle in all, but none showed bundle heart block. X-ray showed cardiomegaly in all, with large right ventricle and full lung fields but no hilar dance.

EXPERIENCES WITH THE ARTIFICIAL CIRCULATION IN THE DOG, BY V. H. WILSON, M.D. (CAMB.), M.R.C.P. (EDIN.), Johannesburg

Dr. Wilson reported experience with the Lillehei pump and 3 bubble oxygenators in 36 dogs. The surgeons and anaesthetists had been supported by their own theatre staff, physicians, a clinical pathologist, a morbid anatomist, and a technician, working with facilities which offered satisfactory conditions for animal survival.

The haematology is of special interest. Dr. Greig had established that a prolonged clotting time was associated with fibrin deposition if the artificial surface was unsuitable. Dr. Greig had also demonstrated that some protamine samples were inactive and that others, though active, might be anticoagulant in action if used in the wrong concentration. Heparin dosage according to weight produced a very variable effect upon the blood in both human and dog. He had found empirically that 1 mg. per kg. of dog weight provided satisfactory conditions for by-pass work.

AN ASSESSMENT OF THE EXERCISE CAPACITY OF CARDIAC PATIENTS, BY C. H. WYNDHAM, M.R.C.P. (LOND.), AND J. S. WARD, Johannesburg

Heart rate, oxygen consumption and minute ventilation volume were measured at 3 grades of work on 4 trained men, 5 untrained men, and 10 ambulatory patients with rheumatic heart disease. Ventilation volume per minute at different levels of oxygen consumption were also measured on 24 young men to set up standards

against which to judge abnormality at the Johannesburg altitude of 6,000 feet above sea level.

Of the 10 cardiac patients, 8 showed ventilation volumes per minute at the 3 levels of oxygen consumption which were essentially the same as in normal subjects. Therefore, ventilatory function, as in normal subjects, did not appear to be the factor limiting the maximum possible level of oxygen consumption during severe exercise. The maximum level of oxygen consumption was obtained by extrapolation to 190 beats per minute of the heart rates obtained at 3 submaximal grades of work when heart rates are plotted as a function of oxygen consumption.

The other 2 cardiac patients showed an abnormal pattern of ventilatory response to exercise. Even at mild effort they had a larger minute volume than normal, and this departed further from normal as the level of exercise was raised. The possible implications of this observation is discussed and the primary cause is considered to be an inability to increase the cardiac output in a normal manner in relation to exercise.

The ventilatory responses to exercise, therefore, serve to distinguish 2 clear categories of patients with rheumatic heart disease. The method of assessing the maximum possible level of oxygen consumption of patients in these 2 categories is discussed.

It is suggested that assessment of the individual cardiac patient's maximum level of oxygen consumption can be employed as an objective index in choosing a safe level of work in employment, in assessing the influence of therapy or surgery, and in following the course of the disease with time.

CONTINUED MORBIDITY AFTER MITRAL VALVOTOMY, by M. M. ZION, M.R.C.P. (LOND.) and J. L. BRAUDO, M.R.C.P. (EDIN.), Johannesburg

Of 300 patients submitted to mitral valvotomy 98 were followed over a period of 1-5 years; 42 (43%) had good, 16 (16%) fair, and 40 (41%) poor results.

The problems presented by patients could be classified as follows:

1. Post-commissurotomy syndrome—readily controlled by steroids.
2. Inadequate splitting of the mitral valve at the first operation.
3. Late re-stenosis of the mitral valve, which occurred in 2 young women following acute rheumatic fever after the initial valvotomy (the importance of prophylactic penicillin was stressed).
4. Persistent right heart failure or tricuspid incompetence, which occurred in 8 cases despite a satisfactory initial valvotomy. They all show an increased exercise tolerance despite an increased heart size. Three factors may be responsible—persistence of increased pulmonary arterial resistance, irreversible myocardial damage, and organic tricuspid disease.
5. Combined mitral stenosis and mitral incompetence.
6. Other causes of poor results despite adequate post-operative size of the mitral valve:
 - (a) Associated valvular defects considered insignificant before operation.
 - (b) Presence of systemic hypertension or ischaemic heart disease.
 - (c) Persistent rheumatic fever.
 - (d) Chronic bronchial infection.
 - (e) Cardiac arrhythmias.
 - (f) Persistent pulmonary hypertension.
 - (g) Subacute bacterial endocarditis.
 - (h) A small group in whom failure to improve cannot be explained.

OTHER PAPERS

The following papers were also read:

Diphtheritic Myocarditis, by A. L. Jackson, M.R.C.P. (Lond.).

The Ballistogram in Mitral Valve Disease, by B. van Lingen, M.D. (Rand.), Johannesburg.

THE PRODUCTION OF ANTIBODIES

South African Institute for Medical Research, Johannesburg

At a scientific meeting of the Institute held on 29 April Sir MacFarlane Burnet, F.R.S., gave a lecture on 'The production of antibodies'. He outlined the essential facts which a satisfactory theory of antibody production must explain, including the time relationship between injection of the antigen and appearance of the antibody, the differences in responses to primary and secondary stimulation, specificity, the recognition of 'self' and 'not-self', and the production of immune tolerance.

Sir MacFarlane mentioned briefly the earlier 'direct template' theories of Mudd, Haurowitz and Pauling, in which the antigen is held to impress its complementary pattern on the newly-synthesized globulin, and pointed out their inadequacies. He then described his own early theory involving an 'indirect template' basis in which the antigen modified the synthetic mechanism of the cell in such a way that modified globulins capable of reaction with the antigen were synthesized, and in which the modification of the cell was transmitted to its daughter cells.

A short description of the phenomena of immune tolerance led to an account of the clonal-selection theory of acquired immunity. It is postulated that during embryonic life clones of

cells develop, which in later life will be 'immunologically competent' to respond to antigens which might occur in the body, by the production of the corresponding antibody. Whilst still in embryo these clones of cells are held to be easily eliminated by contact with the corresponding antigen; thus those clones which would correspond to all normal body constituents would disappear before birth and no antibodies to them be subsequently formed. Furthermore, antigens from other species of animals introduced into a host embryo would eliminate the corresponding clones and so cause tolerance to a later introduction of the antigen after birth, although introduction of the same antigen into a recipient which had not had embryonic contact with it would be followed by antibody production.

Sir MacFarlane considered it possible that the embryo does not produce clones of cells which would become immunologically competent in contact with 'non-body' antigens such as bacterial products or artificial antigens against which, so far, tolerance has not been produced. Antibodies to such antigens are possibly produced by a direct-template mechanism such as that suggested by Karush.

INOCULATION OF CHILDREN AT SCHOOL

At a meeting of Federal Council held during October 1958, the Southern Transvaal Branch of the Medical Association of South Africa, on behalf of the Southern Transvaal General Practitioners' Group, submitted a memorandum on the above subject. In the memorandum it was claimed that the immunization campaigns carried out by local health authorities in schools were encroaching upon private medical practice and that this encroachment constituted unfair competition. Federal Council was therefore requested to make 'such representations as are necessary to the

public health authorities for the cessation of these campaigns to inoculate or immunize children in schools where private practitioners' services are available'.

On the instructions of Federal Council the matter was investigated by the Assistant Secretary (Transvaal) who reported as follows:

'1. The Public Health Act makes it the statutory duty of all local authorities to accept the primary financial responsibility for the hospitalization of patients suffering from infectious diseases. Because of this the local authorities might well claim

that they are entitled, in the interests of the taxpayers, to take all necessary steps to prevent the outbreak of infectious diseases.

2. Section 10 of the Public Health Act lays it down that local health authorities must, *inter alia*, take all lawful, necessary and reasonable practical measures for preventing the occurrence of, and dealing with, any outbreak or prevalence of any infectious, communicable or preventable disease.

3. In pursuance of these requirements, and under the authority of Section 50 (1) (h) of the Act, the Department of Health supplies free immunizing material to local authorities for use in the immunization of persons against diphtheria and enteric fever. By means of an administrative arrangement between itself and the SAIMR the triple vaccine (diphtheria, whooping cough and tetanus) is also issued free by the Department. Latterly poliomyelitis vaccine has also been supplied to local authorities at a specially reduced charge.

4. It is in the public interest that maximal protection measures against infectious diseases should be taken, and it is doubtful whether, if these services were not provided free by local health authorities, a sufficient percentage of persons would be inoculated in order to prevent epidemics.

5. It is convenient for local authorities to carry out the inoculations at schools because this ensures that the maximum number of children are inoculated.

At its recent meeting in Johannesburg, Federal Council agreed

that the report by the Assistant Secretary provided the complete answer to why local authorities should carry on with the work they are doing at present. It was further decided that the Assistant Secretary (Transvaal) be directed to negotiate with the Secretary for Health in an effort to obtain a free issue of vaccines to private general practitioners who were prepared to conduct 'some sort of immunization campaign'.

In a letter to the Assistant Secretary (Transvaal) dated 20 March the Secretary for Health stated, *inter alia*:

'This Department regrets that it is unable to delegate its statutory functions and those of local authorities to private medical practitioners. If, however, the private patients of any private medical practitioner desire immunization against diphtheria or typhoid fever and do not wish to approach the local authority in this matter, I have no doubt that certain local authorities might be prepared in individual cases and by private arrangement to issue from their stocks the required dose of immunizing material to private practitioners free of charge, provided that such private practitioners undertook to perform the immunization in the interests of public health and free of charge to the patient'.

In the last paragraph of the letter from the Secretary for Health the question is raised whether the conduction of 'some sort of immunization campaign' by private practitioners as suggested in the resolution by Federal Council, might not imply a certain degree of advertising by medical practitioners.

THE BENEVOLENT FUND : DIE LIEFDADIGHEIDSFONDS

The following donations during April 1959 are gratefully acknowledged:

Met dank word die volgende skenkings gedurende die maand April 1959, erken:

Votive Cards in Memory of: Geloftekaarte ter Nagedagtenis aan:
Mrs. Mirlin (mother of Dr. W. Mirlin) by M. A. Lautre, Father of Dr. J. Buch by Dr. L. Staz, Mr. Douglas Palmer by Dr. L. Staz, Dr. Guy Fehrsen by Dr. C. A. H. Green, Mr. B. Turckstra by Dr. E. G. van Hoogstraten, and Professor Black (Stellenbosch) deur Mev. E. J. du Toit.

Total Received from Votive Cards: £6 15s. 6d.
Totaal Ontvangs van Geloftekaarte:

Dienste Gelewer aan: Services Rendered to:

Mev. P. D. Nel deur Dr. D. S. Davies.
Mev. W. J. Bam by geboorte van haar baba deur Dr. C. C. Pretorius.
Mrs. Davimes by Drs. S. Joel Cohen and S. Hoffman.
Son of Dr. J. R. Brink (dental surgeon) by Drs. McKechnie and Briggs.
Dr. T. E. Cheze-Brown by Mr. J. D. Joubert.

Daughters of Dr. H. L. Goldblatt by Drs. W. Mirkin and H. Klevansky.

Total Received for Services rendered: £42 12s. 0d.
Totaal Ontvangs vir Dienste Gelewer:

Donations: Skenkings:
Drs. A. L. Forbes, C. Disler, R. P. Seymour, J. P. Beazley, A. L. Wilson, J. S. M. Sililo, A. Nel, R. St. C. Sinclair, A. C. Garnham, R. L. Baikie, J. C. W. Ehlers, E. T. Dietrich, A. H. Baxter, T. H. Crouch, L. G. MacKenzie, C. G. Williams, S. Kahn, and J. Kleinman.

Total: Totaal	£	s.	d.
Afdeling Worcester (M.V.S.A.)—Kollektebusse by vergaderings	11	11	0
Lede van Distriksgeneeshere-groep (M.V.S.A.)	117	19	0
Dr. H. L. Wallace	5	0	0
Johannesburg Clinical and Pathological Club	5	5	0
Eastern Pondoland Division (M.A.S.A.)	15	0	0
Cape Western Branch—Members' collection box	6	10	9

Total Donations: Totaal Skenkings £166 5 9

Groot-Totaal: Grand Total £215 13s. 3d.

PHARMACEUTICAL NEWS : FARMASEUTIESE NUUS

BREAKABLE TABLET

Schering Corporation USA has introduced a new elongated tablet for its steroid hormone Deronil, designed to break under the slightest pressure.

Schering Corporation USA officials report that special precision-made punches and dies are needed for the production of the specially shaped tablets. This tablet is the first specifically designed to be broken under pressure of two fingers.

MEDICAL FILMS

Three new films from the Wellcome Unit are now available on loan free of charge from: Burroughs Wellcome & Co. (South Africa) Ltd., The Wellcome Film Library, P.O. Box 10293, Johannesburg.

The 3 films, in colour, with a total showing-time of 36 minutes, are suitable for showing as a series.

1. Ergot—The Story of a Parasitic Fungus

This film was produced in collaboration with Sir Henry Dale, O.M. and Prof. Chassard Moir, who appears in the film.

The film tells the story of ergot as both a toxic contaminant of rye bread and a valuable medicinal substance. It describes how

the complex alkaloids of ergot were isolated and the use to which they are now being put in the treatment of disease and the management of childbirth.

2. The Management of Twins in Pregnancy and Labour

This film, produced in collaboration with Prof. W. C. W. Nixon, M.D., F.R.C.S., F.R.C.O.G., Professor of Obstetrics and Gynaecology, University of London, and Mr. W. G. MacGregor, M.B., B.S., F.R.C.S., M.R.C.O.G., Obstetric Unit, University College Hospital, London, was judged to be the best medical film produced by a private company.

The film outlines, as an introduction, the incidence of twins and defines the difference between identical and non-identical twins. It then demonstrates a routine for the successful management of twins from ante-natal care to the time of delivery. Risks and complications associated with twin pregnancy are described. In conclusion, two complete deliveries of twins are shown. In the first, presentation is as two vertices and delivery is uncomplicated. In the second, uterine inertia is a complicating factor and delivery is effected with forceps under a general anaesthetic, presentation of the first child being a vertex and that of the second child a breech.

3. *The Routine use of Ergometrine in the Third Stage of Labour*
This film was produced in collaboration with Prof. W. C. W. Nixon, M.D., F.R.C.S., F.R.C.O.G., Professor of Obstetrics and Gynaecology, University of London.

The film is introduced by Professor Nixon, who advances arguments in favour of the routine use of ergometrine in the 3rd stage of labour. A practical demonstration is then given of the

routine use of ergometrine. The patient is seen progressing in the 2nd stage of labour. The midwife prepares the injection of ergometrine and administers it intramuscularly once the head of the child appears. Delivery of the child is then completed in the normal manner. After the injection, contraction of the uterus takes place, the placenta is expelled, and the 3rd stage of labour completed with minimal delay and blood loss.

KOLLEGE VAN INTERNISTE, CHIRURGE EN GINEKOLOË VAN SUID-AFRIKA COLLEGE OF PHYSICIANS, SURGEONS AND GYNAECOLOGISTS OF SOUTH AFRICA



Photo—Cape Argus

Toneel in die Jameson-saal van die Universiteit van Kaapstad op Vrydag 8 Mei 1959 toe die Ere-lidmaatskap van die Kollege van Interniste, Chirurgie en Ginekoloë aan die Gowerneur-Generaal, dr. E. G. Jansen, toegeken is. Aan dr. Jansen se linkerkant is prof. G. A. Elliott (President van die Kollege), wat die sertifikaat van Lidmaatskap oorhandig het. Langs mev. Jansen is dr. Raymund Theron (een van die Vise-presidente van die Kollege). Volledige besonderhede oor die sermonie is gepubliseer in die Tydskrif van 2 Mei (33, 383).

Scene in the Jameson Hall of the University of Cape Town, on Friday 8 May 1959, when the Honorary Fellowship of the College of Physicians, Surgeons and Gynaecologists was conferred on the Governor-General, Dr. E. G. Jansen. On Dr. Jansen's left is Prof. G. A. Elliott (President of the College) who presented the certificate of Fellowship to him. Next to Mrs. Jansen is Dr. Raymund Theron (one of the Vice-presidents of the College). Details of the ceremony were published in the Journal of 9 May (33, 383).

PASSING EVENTS : IN DIE VERBYGAAN

Research Forum, University of Cape Town. A meeting of Research Forum will be held on Tuesday 2 June at 12 noon in the large A-floor lecture theatre, Grootte Schuur Hospital, Observatory, Cape. Dr. M. Sacks (Department of Pathology) will speak on 'Aortic and coronary atherosclerosis in the 3 racial groups in Cape Town'. All who are interested are invited to attend this meeting.

Western Province Blood Transfusion Service. This organization has now moved into new and larger quarters in Cape Town, and within a few months a laboratory will be established in the same building. The new address of the Blood Transfusion Service is: 2nd floor, Broadway Industries Centre, Heerengracht, Cape Town. The telephone number (2-3174) and post office box number (P.O. Box 3788) remain the same.

South African Society of Anaesthetists (M.A.S.A.), Cape Western Branch. At the Annual General Meeting of this Sub-group the following were elected office bearers for the ensuing year: Chairman, Dr. S. Citron; Vice-Chairman, Dr. C. S. Jones; Hon. Secretary/Treasurer/Area Representative, Dr. G. G. Harrison (60 Pleasant Place, Pinelands, Cape); Committee, Drs. J. Abelsohn, P. Jenkin and A. L. Burman.

Members are reminded that they should notify any change of address to the Secretary of the Medical Association of South Africa at P.O. Box 643, Cape Town, as well as to the Registrar of the South African Medical and Dental Council, P.O. Box 205, Pretoria. Failure to advise the Association can only result in non-delivery of the *Journal*. This applies to members proceeding overseas as well as to those who change their addresses within the Union.

Five Hundred Scientific Meetings in 4 years. Of the 498 important scientific meetings and conferences to be held throughout the world in the next 4 years ending December 1962, one will take place in South Africa. This will be the 7th Commonwealth Mining and Metallurgical Congress in Johannesburg in May or June 1961. Most of the congresses will be held in the United States, Britain and countries on the Continent. A few will take place in India and Japan. Two will be held in Russia. These are the 1st

Congress of the International Federation of Automatic Control and the 50th Annual Meeting of the International Council for the Exploration of the Sea.

Cape Province Cerebral Palsy Association. A meeting of medical practitioners who deal with, and are interested in, cerebral palsy will be held over the long week-end 30 May — 1 June, at the Cape School for Cerebral Palsied Children, 15 Milner Road, Rondebosch, Cape. Lectures on cerebral palsy in all its aspects will be given by Dr. and Mrs. K. Bobath. Dr. Bobath, the well-known British neurologist, is honorary consultant physician to the Western Cerebral Palsy Centre, London. All those wishing to attend this short course should communicate with the Secretary, Cape Province Cerebral Palsy Association, 15 Milner Road, Rondebosch, Cape. Telephone 6-8532.

On Saturday 30 May Dr. Bobath will deal with the clinical aspects of cerebral palsy and the neuropathology of cerebral palsy (accompanied by slides and films), and in the afternoon Mrs. Bobath will address the meeting on the principles of treatment which will then be demonstrated. On Sunday Dr. and Mrs. Bobath will discuss the early recognition of cerebral palsy, its special therapy and home management with demonstrations. On the Monday films of progress will be shown and a round-table conference will take place. Each lecture or demonstration will be followed by an opportunity for questions and discussions.

NEW PREPARATIONS AND APPLIANCES : NUWE PREPARATE EN TOESTELLE

INTRALGIN GEL

Riker Laboratories Africa (Pty.) Ltd. announce the introduction of Intralgin Gel and supply the following information:

Intralgin Gel affords a method of applying salicylate therapy exactly where required, in high and effective concentration and without systemic side-effects or undesirable distribution throughout the body.

The principal active ingredient is salicylamide, which has been used orally for nearly a decade and has a known potent analgesic effect. Benzocaine is added for additional relief of pain deriving from the locally induced anaesthesia.

The special Intralgin Gel base affords rapid percutaneous absorption directly into the affected muscle where relief of pain is desired. Massage is quite unnecessary, and light, brisk rubbing alone will ensure full effect. There is no rubefacient or counter-irritant effect involved, as with the older embrocations.

The application of Intralgin Gel to the skin results in a potent analgesic and anaesthetic effect in the underlying muscles.

Intralgin Gel is available in 3 oz. collapsible tubes only.

Full information and samples are available on application to Riker Laboratories Africa (Pty.) Ltd., P.O. Box 3388, Cape Town.

CAR SAFETY BELTS

Norman Gaydon & Co. (Pty.) Ltd., in introducing the Irvin Car Safety Belt, supply the following comments and information:

A great many people are killed and maimed on the roads of South Africa every year and today this problem has become one of national importance. Deaths, and the often more tragic serious injuries, can, however, be prevented or minimized by suitable safety belts.

It has been shown conclusively that if a car strikes an immovable object head on at 30 m.p.h. every person in the car will be killed if the kinetic energy of the moving persons is not safely absorbed or checked.

These injuries are caused by the fact that as the car comes to a standstill the people in it continue moving forward at the original speed. At 30 m.p.h. their bodies smash against the steering wheel, dashboard, windscreen, roof, or front seat. Rib fractures, fractures of the breastbone, damage to the heart, lungs, and liver—these are some of the results caused by hitting the steering column. When the knees strike resistance, the result is fracture of the kneecap, fracture or dislocation of the hips, and fractures of the thighbones. When the driver steps hard on the brake, he may sustain a fractured foot, a dislocated ankle, or a fracture of the knee and hip.

If the front passenger lifts his arms to shoulder height, he raises his centre of gravity and might, in the event of an accident,

fly through the windscreen, dislocating his neck, smashing his face and jaw, or fracturing his skull, or even being decapitated.

If a car travels at 60 m.p.h. and comes to an abrupt stop, as in a head-on collision, the stresses of longitudinal compression on the thigh bone of an occupant of the car may be as high as 50 tons—which will shatter the thigh bone into a dozen splintered pieces. When a car rolls over, the man who falls out is usually killed. Racing and stunt drivers appreciate these hazards. If the roof holds up, being supported by the doors or a roll-over bar, and the driver is strapped in, he usually escapes unharmed.

Irvin Car Safety Belts are easy to use and comfortable to wear. Made of heavy-duty lustrous nylon webbing, the belts may be fastened by a simple motion of the hands and released instantly with one hand. These belts will withstand a shock load of 3,000 lb. and can only be fitted to cars with metal floors; they should not be fitted to car seats or to non-metallic car floors.

For further information contact Norman Gaydon and Co. (Pty.) Ltd. at 6 Krui Street South, Johannesburg, telephone 22-0971 (P.O. Box 6623); 53-55 Stanger Street, Durban, telephone 20795 (P.O. Box 2660); 42A Fichardt Street, Bloemfontein, telephone 82520 (P.O. Box 1157); 384 Albert Road, Salt River, Cape Town, telephone 5-8842 (P.O. Box 39, Salt River); Garden Street, Port Elizabeth, telephone 4-6210 (P.O. Box 3303); and Messrs. Galloway and Thomas, P.O. Box 457, Kimberley.

MEBINOL

Protea Pharmaceuticals Ltd. announce the introduction of a low cost anti-amoebic preparation, Mebinol, produced by Carlo Erba, Milan; the preparation has both prophylactic and therapeutic applications.

Composition. Each tablet of Mebinol contains N-(beta-oxyethyl)-N-(p-phenoxy(4' nitro)-benzyl) dichloroacetamide 250 mg.

Action and uses. Because Mebinol does not contain arsenic or iodine and as it is not absorbed it is therefore absolutely non-toxic. It possesses specific anti-amoebic activity which is exclusively limited to the entamoeba genus. Mebinol is particularly valuable in the treatment of chronic amoebiasis. Other forms of treatment are very often more rapid in removing the symptoms present in the acute stage, but are not always successful in actually eliminating the *Entamoeba histolytica*. Mebinol, on the other hand, destroys the causal agent without in any way affecting the normal intestinal flora.

Dosage. Therapeutic: The average dose for therapy is 6 tablets (250 mg. each) daily, taken at regular intervals. A few days of treatment is sufficient to sterilize the faeces and give complete recovery. Prophylactic: 2 tablets twice weekly.

Packing. Bottles of 30 tablets. A hospital packing of 250 tablets is also available.

CORRESPONDENCE : BRIEWERUBRIEK

DIE KUX-OPERASIE

Aan die Redakteur: Ek het met genoë u artikel¹ van 21 Maart 1959 oor die Kux-operasie gelees. In die Tydskrif van 2 Mei is daar ook 'n brief waarin Medikus² hierdie operasie vir alkoholisme afkeur.

Ek wil ook graag my stem oor hierdie operasie laat hoor omdat ek voel dat sommige geneesher hierdie operasie om geldelike oorwegings doen. Hulle doen dit blykbaar vir omtrent enige denkbare siekte. Dit het onlangs onder my aandag gekom dat sekere van ons kollegas in die Transvaal hierdie operasie vir diabetes doen. Om die waarheid te sê, 2 van my pasiënte het hierdie operasie sonder my medewete laat doen.

As hierdie 2 gevalle nie voorbeelde van kommersialisering van ons beroep is nie, weet ek nie. En hierdie mense, wat dit die minste kan bekostig, moes £50 vir die operasie betaal.

Ek hoop dat ons professie streng gaan optree teen hierdie uitbuitery.

C. Eksteen

Postmasburg
5 Mei 1959

1. Van die Redaksie (1959): S. Afr. T. Geneesk., 33, 244.
2. Briewerubriek (1959): *Ibid.*, 33, 388.

ADVERTISEMENT FOR RADIOLOGIST

To the Editor: My Committee have instructed me to request your favour in publishing the contents of the attached circular in the *South African Medical Journal*:

'An advertisement will shortly appear in the *South African Medical Journal* for a contract to provide a diagnostic radiological service in the radiologist's own rooms, to the Iscor Medical Benefit Fund and Iscor Corporation, Pretoria.

'This contract is not approved by the Northern Transvaal Branch of the Medical Association of South Africa or by the Radiological Society of South Africa, for the following reasons:

1. The remuneration is inadequate.
2. It is not an open panel such as is required by the Federal Council of the Association. No exceptional circumstances which would allow a closed panel have been put forward.
3. The work includes about 1,000 chest examinations, new employees and silicotics of the Iscor Corporation, who are private and not benefit society patients.

'Therefore any radiologist applying for, or accepting, this contract would be acting in defiance of the ruling of the Association and may render himself liable to censure by the Medical Association.

'Further information may be obtained from Dr. F. W. McLachlan, 206 Van Riebeeck Medical Buildings, Schoeman Street, Pretoria.'

1 Lister Buildings
Jeppe Street
Johannesburg
30 April 1959

Cecil Komins
Hon. Secretary
The Radiological Society of South Africa
(M.A.S.A.)

ETHICS AND ADVERTISING

To the Editor: I submit that objections to the participation by doctors in matters affecting public health and welfare are now unnecessarily exaggerated. (See report on Federal Council Meeting.)

At a recent meeting of a national welfare organization, doctors who lectured were referred to as 'Dr. Alpha', 'Dr. Omega' and 'Greek colleagues'. Surely this is utterly ridiculous.

I suggest that the health of the nation and the work of such bodies as the National Cancer Association, SANTA, child welfare societies, and a proposed diabetic association is being seriously hindered by the restrictions on any public appearance or pronouncement by a private medical practitioner.

A European patient living in a town was recently admitted to hospital with an ulcerated cancer of the breast of 2 years duration. Lacking the courage to enter a doctor's consulting rooms, she may well have attended a public discussion or a film on cancer and learned of the improving prognosis under treatment.

Instead of receiving encouragement in work for public welfare, private doctors who show any evidence of being public-spirited,

face frustrating criticism and a threat of legal action. Are there too many doctors in South Africa, or is the fear that patients will be drawn away from their long-standing private practitioner based on some other stress?

The touters, the unscrupulous, and those seeking publicity must obviously be controlled, but let us, please, be reasonable.

In fear of being accused of advertising I take shelter as

4 May 1959

Omega II

1. Federal Council Meeting (1959): S. Afr. Med. J., 33, 382.

DISPOSAL OF DUPLICATE PERIODICALS

To the Editor: All duplicate copies of periodicals received from the Medical Association and other sources in the stock of the Medical Library of the University of Cape Town which are not required have been listed periodically in our disposal lists and offered to the other 5 South African medical libraries, preference being given to the newer libraries.

We now suggest listing all the possible regular-recurring duplicates and inviting the other 5 South African medical libraries (preference being given to the newer libraries) to select which they would like to receive regularly.

This would ensure that the receiving library would receive a more or less unbroken set as long as the library of the University of Cape Town is in a position to offer such a duplicate. These periodicals would be reserved for the library in question and they would not appear on future disposal lists.

The only conditions attached to such an arrangement would be (a) the receiving library would make good the cost of transport, (b) the receiving library would have no claim on the Medical Library of the University of Cape Town for parts not received, and (c) the Medical Library of the University of Cape Town will dispatch these periodicals in batches at intervals depending upon staff available.

We trust that the attention of members of the Medical Association will be drawn to the fact that this library has to date contributed very substantially towards building up the stock of the newer South African medical libraries and is still following a fixed policy of assisting them in the future wherever possible.

University of Cape Town
13 May 1959

G. Glickman
Medical Librarian

POTENT ORAL ANTI-DIABETIC DRUGS

To the Editor: Now that we are using potent oral anti-diabetic drugs, it behoves us to be aware of the inherent dangers associated with these drugs.

I should like to report briefly on a case of a 72-year-old man, who had been well-controlled on 10 units of insulin daily and whose medication was changed to a new oral anti-diabetic drug, Diabinese, in a dose of 375 mg. daily. After a few days, he developed an attack which was thought to be aphasia due to a cerebral thrombosis. Forty-eight hours later, he went into a deep coma, with stertorous breathing, and he could not be roused. His blood-sugar level at the time was 32 mg.%. He recovered.

I feel that this case should be a warning to us. These drugs are far more potent than one would think and they should be used with considerable care.

B. A. Bradlow

801 Ingram's Corner
Cor. Twist and Kotze Streets
Hillbrow, Johannesburg
5 May 1959

SAFETY BELTS IN CARS

To the Editor: Considerable prominence has been given to the question of safety belts in cars and, owing to a recent spate of cases of severe injury arising from traffic accidents, my interest in this subject has been renewed. Over a period of 16 weeks, my associate, Mr. David Roux, and I dealt with 13 fracture dislocations of the hip. The orthopaedic technicalities of these problems are not relevant to this letter. Most of these cases had concomitant face, jaw or chest injuries.

In view of our tempting and relatively deserted national roads, our crowded city traffic conditions, our heterogeneous vehicles, our undisciplined pedestrians, cyclists, motor-cyclists and others, our accident rate per vehicle is shockingly high, and compares unfavourably with that of most countries.

Analysis of injury-producing factors have been conducted by many competent organizations such as the Cornell University Automobile Safety Research; the Ford Motor Company; General Motors; the University of California; the Special Sub-committee on Traffic Safety of the House of Representatives, Washington D.C.; Prof. K. H. Bauer of the Surgical Clinic, University of Heidelberg, Germany; the British Medical Association; the Manchester Statistical Society; the British Safety Council and many others.

These analyses indicate patterns of preventable injury. Changes in car design have already led to a reduced incidence and severity of injury in accidents. Such changes include padded instrument panels, sun visors, recessed hub steering wheels, strengthened door locks, roll-over bars, and car safety belts.

Greater speed and mobility are the essence of modern existence, and the blunt contradiction implied in the phrase 'speed kills' appears to be insoluble. But a compromise is possible.

Let us ignore, for the present, the finding that among the occupants of cars travelling above 59 m.p.h. the frequency of dangerous or fatal injury is nearly 3 times as great as it is among those travelling below 59 m.p.h. Sixty per cent of dangerous or fatal accidents occur below 49 m.p.h. Dangerous or fatal accidents at low speeds are commonly due to the occupant of the car striking interior car components such as the steering wheel and column, the dashboard, the switch knobs, and the windscreen. Speed limitation without control of car design, limits the extent to which dangerous or fatal accidents can be reduced.

The speed at which passengers strike these objects need not be high to produce fractures of the skull, face, neck and limbs. These severe injuries are largely preventable by the use of correctly fitted safety belts.

Experimental work with volunteer human subjects has been carried out at the University of Minnesota, USA. For example, a man travelling at 35-45 m.p.h., subjected his 3-inch lap safety belt to a force of 26 G or 4,587 lb., without suffering injury. Large numbers of these experiments on dummies and human volunteers have been performed on such a scale as to prove conclusively that serious injury can be avoided.

Ejection from the car increases the risk of dangerous or fatal injury to 5 times as high as when the occupant is not ejected. In this respect also, the safety belt plays an invaluable life-saving part.

In one series of the Cornell Automobile Crash Research Unit, it was shown that of 268 fatal accidents 68 could have been avoided by preventing the occupant from falling out of the vehicle. Moreover, it was calculated that 5,500 lives could be saved annually in the USA if the hazardous ejection of the occupant could be prevented. It is recommended that ejection can be prevented by the use of properly designed and installed safety belts.

There are numerous technical aspects of this problem that cannot be quoted in a brief extract from literature such as this. There appears, however, to be no need for any of this work to be reduplicated in this country. The information is available and the inferences are obvious. It requires the interest and attention of the medical profession to persuade those in authority to apply the knowledge available.

Safety belts reduce the chances of dangerous or fatal injury $3\frac{1}{2}$ times. Fitting safety belts is a practical answer now. We cannot wait for the day of the fool-proof motor car.

Clarendon Centre Building
Park Lane
Parktown, Johannesburg
30 April 1959

G. T. du Toit

TREATMENT FOR RECURRENT HERPES SIMPLEX

To the Editor: I am prompted to write this letter by the realization that a simple and often effective method of treatment for recurrent herpes simplex, in the form of repeated smallpox vaccinations, is apparently not sufficiently known and in some cases not sufficiently appreciated.

The condition is common, and it is sometimes distressing. The intervals between the attacks vary in different cases from

many months to a few weeks or even days. Anybody who has had to attend to a case of herpes genitalis, particularly in a married man, must have been struck by the mental anxiety and depression usually caused by this seemingly minor malady. The patient believes that he is suffering from a dreadful contagious disease. The part played by coitus in precipitating the attacks tends to aggravate the situation.

The relevant data with regard to this method of treatment are as follows:

It has been used all over the world since 1925 following some experimental work which seemed to suggest that there was an immunological relationship between the viruses of herpes simplex and vaccinia.¹ This could not be confirmed by subsequent investigations, and it is now generally accepted that no such relationship exists. The treatment, however, proved to be effective, often resulting in a reduction of the incidence of the attacks or in a complete remission of the disease. This has been borne out by the experience of numerous dermatologists during the last 34 years. In the words of Baldrige² 'the overwhelming experience of most dermatologists indicates that this method of treatment is effective in reducing the incidence of outbreaks'.

In a recent paper, Schiff and Kern³ claim to have obtained complete remission in 52 out of 68 cases with this method of treatment. In a later study the same authors have obtained a much higher rate of remissions in a group that received smallpox vaccinations as compared with a control group treated by inoculations with a heat-killed vaccine.⁴

The writer can claim similar results from his comparatively limited experience. Some cases were first treated with superficial X-ray therapy, usually with only temporary benefit. An illustrative case was that of a married man in whom a remission of the attacks was produced on 2 occasions by a course of fractional doses of superficial X-ray therapy, only to be followed by a relapse a few months later, and in whom a subsequent series of smallpox vaccinations resulted in a complete remission, the patient reporting freedom from any outbreaks when seen 4 years later.

Trying to explain the beneficial effect of the treatment is much more controversial. It could hardly be caused by ordinary spontaneous remissions in view of the results obtained and confirmed by numerous observers over such a long period of time.

Some believe that the effect may be due to suggestion. Blank and Brody⁵ reported some good effects from psychiatric treatment. Commenting on this report, Sulzberger and Baer⁶ state: 'We have never seen a patient with recurrent herpes simplex proved to be definitely cured by psychiatric measures despite many attempts by analysts and other psychiatrists to relieve some of our patients.' Against the theory of suggestion the results obtained by smallpox vaccination in a series of cases in which a control group was used could be quoted,⁴ also the rather inferior results obtained with such an impressive therapeutic procedure as X-ray therapy.

Sulzberger and Baer also point out that 'the fact that there is no obvious theoretical basis for any cross-immunization does not rule out the actual occurrence of beneficial effects'... they 'have seen a number of cases in which a possible preventive action of smallpox vaccination was so strongly suggested by purely clinical findings that it could not be ruled out on the basis of purely theoretical reasoning'.⁷

Whatever the mechanism underlying its therapeutic effect may be, the method has undoubtedly stood the test of time as far as its practical value is concerned. Although not infallible, it has proved to be of great help in a considerable proportion of cases of recurrent herpes simplex—a condition for which no better treatment is as yet known.

23-25 Pasteur Chambers
191 Jeppe Street, Johannesburg
6 May 1959

A. Robins

1. Gildermeister, F. and Herzberg, K. (1925): *Dtsch. med. Wschr.*, 51, 1647.
2. Baldrige, G. D. (1959): *Arch. Derm. Syph.*, 79, 299.
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